

UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

MIRROR IMAGING, LLC,

Plaintiff

v.

PNC BANK, N.A.,

Defendant

Case No. 6:21-cv-518

JURY TRIAL DEMANDED

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Mirror Imaging, LLC (“Plaintiff”) hereby files this Original Complaint for Patent Infringement against Defendant PNC Bank, N.A. (“PNC” or “Defendant”), and alleges, upon information and belief, as follows:

THE PARTIES

1. Mirror Imaging, LLC is a limited liability company organized and existing under the laws of the State of Michigan with its principal place of business at 27500 Donald Court, Warren, Michigan 48092.
2. Plaintiff Mirror Imaging, LLC is a decades-old company founded in 1997 by the inventors of the Mirror Imaging Patents: Michael Schulze and Richard Gagnon. The start-up was formed in order to address what Mirror Imaging and its founders recognized was an unsolved need in the financial services industry; namely, the inefficient and costly archive record retrieval processes available at the time. Indeed, Mirror Imaging built the first ever system implementing the inventive and unconventional patented approach in August 1998, which it was able to seamlessly integrate with

the existing systems in use by its bank client at the time. The patented Mirror Imaging system was heralded at the time for its efficiencies and data security, but was soon met in the industry by deep-pocketed competitors and was cornered out of the very market it had created.

3. Upon information and belief, Defendant is a foreign financial institution organized and existing under the laws of the United States, with a principal place of business located at 300 Fifth Avenue, Pittsburgh, Pennsylvania 15222. Defendant may be served through its registered agent in the State of Texas at Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company, 211 East 7th Street, Suite 620, Austin, Texas 78701. On information and belief, in its extensive role as a consumer and business financial institution (whether Commercial Bank, Thrift, or Credit Union), PNC makes, uses, sells, offers to sell, and otherwise provides financial account and/or depository services (including but not limited to credit cards, debit cards, checking accounts, and secured/unsecured loans) to consumers throughout the State of Texas, including in this judicial District, and introduces such services into the stream of commerce knowing and intending that they would be extensively used in the State of Texas and in this judicial District. On information and belief, PNC specifically targets customers in the State of Texas and in this judicial District.

JURISDICTION AND VENUE

4. This Court has subject matter jurisdiction over this case under 28 U.S.C. §§ 1331 and 1338.
5. This Court has personal jurisdiction over Defendant. Defendant has continuous and systematic business contacts with the State of Texas. Defendant directly conducts business extensively throughout the State of Texas, by distributing, making, using, offering for sale, selling, and advertising (including the provision of interactive web pages; the provision and support of payment cards; the provision and support of checking accounts; the provision and support of secured and unsecured loans; and further including maintaining physical facilities) its services in the State of

Texas and in this District. Defendant has purposefully and voluntarily made its business services, including the infringing systems and services, available to residents of this District and into the stream of commerce with the intention and expectation that they will be purchased and/or used by consumers in this District. On information and belief, PNC is a provider of: (i) payment cards and card services; (ii) checking account services; and (iii) secured and unsecured loans, throughout the United States.

6. On information and belief, Defendant maintains physical brick-and-mortar business locations in the State of Texas and within this District, retains employees specifically in this District for the purpose of servicing customers in this District, and generates substantial revenues from its business activities in this District. On information and belief, PNC has committed to the opening of a substantial facility in New Braunfels, Texas, and has hired hundreds of people in the District specifically for the purpose of staffing the facility once the current Covid-induced delay is overcome and the facility can safely open. On information and belief, the physical presence of the employees within this District is required and expected.

New Braunfels to get new financial operations center, 500-plus jobs

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Pittsburgh-based PNC Bank will develop an operations center in New Braunfels that will employ more than 550 workers when its fully functioning.

RECOMMENDED

COMMERCIAL REAL ESTATE
Indiana company building 420,000-SF industrial park in Northeast SA 

FOOD & LIFESTYLE

See <https://www.bizjournals.com/sanantonio/news/2019/09/26/new-braunfels-to-get-new-financial-operations.html>.

PNC Growing by the Hundreds in the Heart of Texas

New Care Center brings 500 jobs to Central Texas

Near the middle of the Lone Star State, PNC Bank – through its continued expansion in Texas – soon plans to hire hundreds of new employees who shine when it comes to customer service and sales.

Construction of a PNC Customer Care Center in New Braunfels, Texas, is under way and on schedule to conclude in the coming months. More than 500 employees will operate from the New Braunfels campus, drawing from an extensive talent pool in and around New Braunfels, San Antonio and Austin.

PNC has been doing business in the state of Texas for some time, but in recent years, as part of its ongoing national expansion effort, has doubled down on its investment, formalizing its local presence in two major metros: Houston and Dallas-Ft. Worth. While PNC's initial expansion efforts focused on Corporate & Institutional Banking, the business community's positive reception of PNC has opened the door to growing in other areas of the bank, including consumer-facing retail banking.



Julie Sudduth is regional president of PNC in Houston

See <https://www.pnc.com/en/about-pnc/topics/pnc-pov/community/texas-employment-expansion.html>.



PNC's continuing its expansion, CEO Bill Demchak said during the Pittsburgh-based bank's third-quarter earnings call.

COURTESY OF PNC FINANCIAL SERVICES GROUP INC.

By Patty Tascarella and Will Anderson – Austin Business Journal
Oct 14, 2020, 2:42pm EDT

IN THIS ARTICLE

Mergers and Acquisitions
Topic

PNC Bank is expanding to Austin and San Antonio. CEO Bill Demchak spoke about opportunities, challenges, acquisitions and more amid the pandemic on the bank's Q3 earnings call.

See <https://www.bizjournals.com/austin/news/2020/10/14/pnc-expanding-into-three-new-regions.html>.

Treasury Management Officer I

PNC Financial Services Group ★★★★☆ 6,635 reviews
Austin, TX 78701

[Apply On Company Site](#)



Job Profile

Position Overview

At PNC, our people are our greatest differentiator and competitive advantage in the markets we serve. We are all united in delivering the best experience for our customers. As a Relationship Manager I within PNC's Treasury Management organization, **you will be based in Austin TX.**

See <https://www.indeed.com/q-Pnc-l-Texas-jobs.html?advn=2359887406837421&vjk=eb14d067beacbf28>.

Customer Service Rep Spec Sr-PNCI (F)

New Braunfels, Texas, United States Of America | Job ID: R058755

[Back to search results](#) [Next job >](#)

Position Overview

At PNC, our people are our greatest differentiator and competitive advantage in the markets we serve. We are all united in delivering the best experience for our customers. As a(n) Customer Service Rep Spec Sr-PNCI (F) within PNC's Investments organization, **you will be based in New Braunfels, TX.**

See <https://careers.pnc.com/global/en/job/R058755/Customer-Service-Rep-Spec-Sr-PNCI-F>.

AMERICAN BANKER

LEADERS POLICY & REGULATION COMMUNITY BANKING CREDIT UNIONS MORE ▾
CUSTOMER SERVICE

Kyla Stubbs, PNC Bank | Next 2021

By Marissa Fajt May 05, 2021, 9:00 p.m. EDT 2 Min Read

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Kyla Stubbs was anticipating a highly challenging 2020 well before the pandemic hit. She had moved from Ohio as the year began, to open PNC Bank's first Texas customer care center. She already knew it'd be a big effort to recruit 560 people in a market where nobody had heard of PNC before.

But the pandemic forced her to rework the strategy entirely. The new 60,000-square-foot office that she oversees in New Braunfels will remain empty through 2021, as her recently hired staff (she's gotten about halfway to the full headcount) continues to work remotely.

See <https://www.americanbanker.com/news/kyla-stubbs-pnc-bank-next-2021>.

7. On information and belief, PNC has a substantial presence in the State of Texas and within this District, as exemplified by the LinkedIn Profile Page for employees of PNC, which includes at least Kyla S Jackson-Stubbs as a Senior Vice President at PNC, and who is represented as the Care Center Site Manager in New Braunfels, Texas.



Kyla S Jackson-Stubbs · 3rd
Senior Vice President, Care Center Site Manager at PNC
New Braunfels, Texas, United States · [Contact info](#)
353 connections

[Connect](#) [Message](#) [More](#)

 PNC
 Ohio Dominican University



See LinkedIn Profile Page at <https://www.linkedin.com/in/kyla-s-jackson-stubbs-06584a90/>.

8. On information and belief, PNC provides a plurality of financial services, including but not limited to providing and supporting payment cards (including but not limited to credit cards, debit cards, and/or prepaid cards) as the Issuing Bank or Card Issuer for such cards, to businesses and individuals located in the State of Texas and within this District.
9. Further on information and belief, PNC provides a plurality of financial services, including but not limited to providing and supporting personal and/or business checking accounts, to businesses and individuals located in the State of Texas and within this District.
10. Further on information and belief, PNC provides a plurality of financial services, including but not limited to providing and supporting secured and/or unsecured loans (including but not limited to mortgage loans, vehicle loans, personal loans, and/or business loans) to businesses and/or individuals located in the State of Texas and within this District.
11. Venue is proper in the Western District of Texas as to Defendant pursuant to at least 28 U.S.C. §§ 1391(c)(2) and 1400(b). As noted above, Defendant maintains a regular and established business presence in this District.

PATENTS-IN-SUIT

12. Plaintiff is the sole and exclusive owner, by assignment, of U.S. Patent Nos. 6,963,866 ("the '866 Patent"); 7,552,118 ("the '118 Patent"); 7,836,067 ("the '067 Patent"); 9,141,612 ("the '612

Patent"); 9,928,275 ("the '275 Patent"); 10,013,435 ("the '435 Patent"); 10,262,009 ("the '009 Patent"); and 10,402,447 ("the '447 Patent") (hereinafter collectively referred to as "the Mirror Imaging Patents").

13. By written instruments duly filed with the United States Patent and Trademark Office, the named inventors of the Mirror Imaging Patents assigned all rights, title, and interest in the Mirror Imaging Patents to Plaintiff Mirror Imaging LLC. Such Assignments are recorded in the records of the United States Patent and Trademark Office as follows: (i) the '866 Patent at Reel 017575 and Frame 0468; (ii) the '118 Patent at Reel 016894 and Frame 0812; (iii) the '067 Patent at Reel 022859 and Frame 0046; (iv) the '612 Patent at Reel 031895 and Frame 0565; (v) the '275 Patent at Reel 042914 and Frame 0800; (vi) the '435 Patent at Reel 045441 and Frame 0755; (vii) the '009 Patent at Reel 047051 and Frame 0578; and (viii) the '447 Patent at Reel 048527 and Frame 0382. As such, Plaintiff Mirror Imaging LLC has sole and exclusive standing to assert the Mirror Imaging Patents and to bring these causes of action.
14. The Mirror Imaging Patents are valid, enforceable, and were duly issued in full compliance with Title 35 of the United States Code.
15. The inventions described and claimed in the Mirror Imaging Patents were independently invented by joint inventors Michael D. Schulze and Richard J. Gagnon.
16. Messrs. Schulze and Gagnon are pioneering inventors, and the Mirror Imaging Patents represent substantial technological advancements in the financial services industry which were unconventional at the time of invention. Indeed, the Mirror Imaging Patents have been back-cited in patents issued to JP Morgan Chase, USAA, Sterling Commerce, First USA Bank, and Wells Fargo, among others. In fact, Mr. Schulze is the former General Lab Manager and Quality Analyst at Great Lakes Technologies, where he designed and managed the Microfilm Processing

Laboratory Business Unit consisting of four processing laboratories across three states. Similarly, Mr. Gagnon is the former chairman and majority owner of Universal Images, Inc., which from 1989 to 2012 was a computer graphics and digital post-production company operating principally in the television advertising industry.

17. The Mirror Imaging Patents each include numerous claims defining distinct inventions. No single claim is representative of any other.
18. The priority date of each of the Mirror Imaging Patents is at least as early as April 13, 1999. As of the priority date, the inventions as claimed were novel, non-obvious, unconventional, and non-routine. Among other things, as of the priority date, providers in the financial services industry were configured in such a way that archived documents were stored in either on-site or off-site facilities in one of “microfiche, microfilm, digitally, or by some other electronic storage means.” *See* ’447 Patent at 1:45-51. In order to retrieve an archived document, the financial institution would expend substantial human resources, as the back-office processes as of the date of invention were time consuming, labor intensive, and expensive. *See* ’447 Patent at 2:1-15. The concept of interlinking multiple data storage facilities via an electronic interface to accomplish record retrieval without the substantial back-office effort was unconventional as of the date of invention. *See* ’447 Patent at 2:25-52.
19. As recognized in the intrinsic record, the inventions as claimed solved the technological problems associated with back-office records retrieval by interlinking multiple data storage facilities. This technological solution and inventive concept allowed financial institutions, for the first time, to outsource the responsibilities associated with obtaining archived documents. *See* ’447 Patent at 9:37-46. Moreover, such technological solutions greatly improved the functionality of the data

archive systems as of the date of invention by providing unconventional access to both the on-site and off-site storage databases from a common interlinked interface.

20. The inventive technological solution to the technological problem facing the industry as of the date of invention is specifically described in the intrinsic record. As explained by the patentee to the United States Patent Examiner, the technological problem addressed by the claimed inventions centered on the selective archiving and retrieving of financial documents stored in separate electronic storage systems by using an unconventional interface linked to *both* storage systems. *See* Amendment and Response dated December 4, 2017, at 7-8. Again, the technological solution captured in the claims “empowers a financial institution to access and retrieve financial documents from both storage systems in a more efficient and cost-effective manner.” *Id.* Such a solution was neither well-known nor conventional to skilled artisans in April 1999. *Id.* at 8. The evidence of record, including sworn declarations, supports this fact. Among other things, as of the date of invention: (i) there were no service providers in the industry servicing bank clients without having the client perform more labor to outsource retrievals; (ii) banks were required to perform additional re-keying of information and use additional manpower in order to outsource retrievals; (iii) banks were not inclined to outsource retrievals due to the prohibitive costs; and (iv) outsourcing services were not cost-effective or efficient. *Id.* The claimed technological solution, however, overcame these deficiencies while improving efficiencies, reducing costs, and technologically improving banking systems. *Id.* Moreover, the inventions received contemporaneous industry praise for providing transparent digital retrieval, reducing staffing requirements, and reducing costs for equipment and service contracts. *Id.* Such facts establish the unconventionality of the technological solution and the inventive concepts captured in the claims.

21. The inventions as claimed add substantially more than the mere retrieval of financial records. Rather, and as explained in the intrinsic record, they provide a hybrid on-site and third party (off-site) storage solution within a single interface interlinked with both storage systems. *See* Amendment and Response dated December 4, 2017, at 9. Moreover, the inventions as claimed include components arrayed in a distributed architecture that minimizes the impact on network and system resources. *Id.*
22. The claims of the '275 Patent, the '435 Patent, the '009 Patent, and the '447 Patent (collectively, the "Post-*Alice* Mirror Imaging Patents") were all correctly allowed by the Patent Examiners over the multitude of eligibility arguments raised by FiServ, Jack Henry, Q2 Software, American National Bank of Texas, and Hanmi Bank. Those arguments, as presented in the Declaration of William R. Michalson, were all overcome by the claims of the Post-*Alice* Mirror Imaging Patents. Likewise, United States Patent Office Examiners Lodhi and Vital allowed the claims of Application Number 16/541,962 to issue on October 23, 2019 over this same collection of eligibility arguments. *See* Notice of Allowance, dated October 23, 2019. Thus, deference is owed the educated and informed decisions of the Examiners to allow the claims of the Post-*Alice* Mirror Imaging Patents over the various eligibility arguments raised in the Michalson Declaration. *Stone Basket Innov. v. Cook Medical*, 892 F.3d 1175, 1179 (Fed. Cir. 2018) ("when prior art is listed on the face of a patent, the examiner is presumed to have considered it") (citing *Shire LLC v. Amneal Pharm., LLC*, 802 F.3d 1301, 1307 (Fed. Cir. 2015)); *Exmark Mfg. v. Briggs & Stratton*, 879 F.3d 1332, 1342 (Fed. Cir. 2018); *see also* Dkt. 1022 in PTAB-CMB 2018-00014 (Michalson Declaration, dated January 11, 2018); Dkt. 1022 in PTAB-CBM 2018-00015 (Michalson Declaration, dated January 11, 2018); Dkt. 1022 in PTAB-CBM 2018-00016 (Michalson

Declaration, dated January 9, 2018); and Dkt. 1022 in PTAB-CBM 2018-00017 (Michalson Declaration, dated January 10, 2018).

23. Further, the claims of Post-*Alice* Mirror Imaging Patents '009 and '447 each were correctly allowed by the Patent Examiners over the multitude of additional eligibility arguments raised by FiServ, Jack Henry, Q2 Software, American National Bank of Texas, and Hanmi Bank. Those arguments, as presented in: (i) the Declarations of Stephen Gray; (ii) the Declarations of John V. Ashley; (iii) the various Orders issued by the Patent Trial and Appeal Board in Covered Business Method Reviews relating to the non Post-*Alice* Mirror Imaging Patents; (iv) the Briefing of the parties in the Covered Business Method Reviews relating to the non Post-*Alice* Mirror Imaging Patents; and (v) the other references as cited on the face of the '009 and '447 Patents, were all overcome by the claims of those Post-*Alice* Mirror Imaging Patents. Likewise, United States Patent Office Examiners Lodhi and Vital allowed the claims of Application Number 16/541,962 to issue on October 23, 2019 over this same collection of eligibility arguments. *See* Notice of Allowance, dated October 23, 2019. Thus, deference is owed the educated and informed decisions of the Examiners to allow the claims of Post-*Alice* Mirror Imaging Patents '009 and '447 over the various eligibility arguments raised in the art of record on the face of those Patents. *Stone Basket Innov. v. Cook Medical*, 892 F.3d 1175, 1179 (Fed. Cir. 2018) (“when prior art is listed on the face of a patent, the examiner is presumed to have considered it”) (citing *Shire LLC v. Amneal Pharm., LLC*, 802 F.3d 1301, 1307 (Fed. Cir. 2015)); *Exmark Mfg. v. Briggs & Stratton*, 879 F.3d 1332, 1342 (Fed. Cir. 2018). Moreover, any additional arguments relating to eligibility as may be made are necessarily merely cumulative with those already considered, and rejected, by the Patent Examiners in allowing the Post-*Alice* Mirror Imaging Patents. *See, e.g., Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1337 (Fed. Cir. 2008).

24. As of the date of invention in April 1999, the conventional and deficient state of the art was embodied in the Kodak ImageLink Digital Workstation. *See* '447 Patent at 10:11-24 and 14:52-15:8. The ImageLink system, like others of the time, could not overcome a unique problem in the field of financial document storage: the inability to store, organize, and retrieve financial documents based on a predetermined document parameter in on-site (or first) and off-site (or second) storage systems through an interlinked and unified interface. *See id.* at 14:52-15:8 (discussing the narrow utility of the Kodak ImageLink system by showing how the claimed invention improves and fundamentally expands that functionality). In view of the foregoing, the inventive concepts captured in the claims of the Mirror Imaging Patents were unconventional and allow for substantially more than the mere retrieval of financial records.
25. The inventions of the Mirror Imaging Patents capture technological improvements in the form of a novel architecture comprising separate electronic storage systems (locally or remotely), based on specific document parameters within an integrated system, with a single interlinked interface. The claims of the Mirror Imaging Patents, therefore, are specifically tailored to solve discrete problems that existed as of the date of invention.
26. As further evidence of the unconventionality of the technological solutions captured in the claims of the Mirror Imaging Patents as of 1999, the United States Congress did not enact the Check Clearing for the 21st Century Act (“Check 21 Act”) until October 2003. The Check 21 Act, among other things, provided for the substitution of electronic copies of checks (“substitute checks” or “image replacement documents”) in lieu of paper for clearing. As such, the concept of interlinking on-site and off-site electronic storage platforms was less prevalent as of the date of invention, given the hard-copy check storage requirements of 1999.

27. As further evidence of the stated non-routine aspects of the inventions, during prosecution of the '275 Patent, Examiner Andalib Lodhi, along with Primary Examiner Scott Waldren, jointly and expressly considered whether the claims of the '275 Patent were eligible under 35 USC §101 in view of the United States Supreme Court's decision in *Alice*. *See, e.g.*, Examiner Initiated Interview Summary, dated December 5, 2017. Following a series of rejections, amendments, and interviews, Examiners Lodhi and Waldren affirmatively and expressly found that the claims are in fact patent eligible under 35 USC §101, and allowed such claims over the then-pending eligibility (§ 101) rejection. A few short months later, and notwithstanding the clear concern and attention to eligibility under 35 U.S.C. § 101 as a focus of the examination, the same pair of Examiners allowed all claims of the '435 Patent without expressing any eligibility objections to the claims as presented. Likewise, Examiner Lodhi then partnered with Primary Examiner Pierre Vital to examine and allow the claims of the '009 and '447 Patents. Again, and notwithstanding the clear concern and attention to eligibility under 35 U.S.C. § 101 as a focus of the examination, especially on the part of Examiner Lodhi, the pair of Examiners allowed all claims of the '009 and '447 Patents without expressing any eligibility objections to the claims as presented. Finally, Examiner Lodhi then partnered with Primary Examiner Pierre Vital to examine and allow the claims of the '962 Application to issue on October 23, 2019 without expressing any eligibility objections to the claims as presented. *See* Notice of Allowance, dated October 23, 2019.

28. Accordingly, each of the claims of the Post-*Alice* Mirror Imaging Patents were specifically allowed over all eligibility arguments relating to 35 U.S.C. § 101, including those raised by FiServ, Jack Henry, Q2 Software, American National Bank of Texas, Hanmi Bank, and the experienced professional Examiners at the United States Patent and Trademark Office.

29. Plaintiff alleges infringement on the part of Defendant of the '275 Patent, the '435 Patent, the '009 Patent, and the '447 Patent (collectively as the "Asserted Patents").
30. The '275 Patent relates generally to systems and methods wherein an electronically stored financial document is either maintained in a first storage system when a parameter associated with the document is greater than a pre-selected parameter or in a second storage system when the parameter associated with the document is less than or equal to the pre-selected parameter. A request for a stored financial document is received and the requested financial document parameter is compared to the pre-selected financial document parameter to determine if the electronically stored financial document's parameter is more than, less than, or equal to the pre-selected parameter. In processing the request, a processing unit compares and electronically accesses one of the storage systems in response to the comparison of the pre-selected parameter to the electronically stored financial document's parameters. After accessing the appropriate storage system, the requested electronically stored financial document can be reproduced, and/or distributed. *See Abstract, '275 Patent.*
31. The '435 Patent relates generally to systems and methods wherein an electronically stored financial document is either maintained in a first storage system when a parameter associated with the document is greater than a pre-selected parameter or in a second storage system when the parameter associated with the document is less than or equal to the pre-selected parameter. A request for a stored financial document is received and the requested financial document parameter is compared to the pre-selected financial document parameter to determine if the electronically stored financial document's parameter is more than, less than, or equal to the pre-selected parameter. By using an interlinked interface, an electronic processor compares and electronically accesses one of the storage systems in response to the comparison of the pre-selected parameter to

the electronically stored financial document's parameters. After accessing the appropriate storage system, the requested electronically stored financial document can be reproduced, and/or distributed. *See Abstract, '435 Patent.*

32. The '009 Patent relates generally to systems and methods wherein an electronically stored financial document is either maintained in a first storage system when a parameter associated with the document is greater than a pre-selected parameter or in a second storage system when the parameter associated with the document is less than or equal to the pre-selected parameter. A request for a stored financial document is received and the requested financial document parameter is compared to the pre-selected financial document parameter to determine if the electronically stored financial document's parameter is more than, less than, or equal to the pre-selected parameter. By using an interlinked interface, at least one electronic processor compares and electronically accesses one of the storage systems in response to the comparison of the pre-selected parameter to the electronically stored financial document's parameters. After accessing the appropriate storage system, the requested electronically stored financial document can be reproduced, and/or distributed. *See Abstract, '009 Patent.*
33. The '447 Patent relates generally to systems and methods wherein an electronically stored financial document is either maintained in a first storage system when a parameter associated with the document is greater than a pre-selected parameter or in a second storage system when the parameter associated with the document is less than or equal to the pre-selected parameter. A request for a stored financial document is received and the requested financial document parameter is compared by the at least one electronic processor to the pre-selected financial document parameter to determine if the electronically stored financial document's parameter is more than, less than, or equal to the pre-selected parameter after the request is received. By using an

interlinked interface, at least one electronic processor compares and electronically accesses one of the storage systems in response to the comparison of the pre-selected parameter to the electronically stored financial document's parameters. After accessing the appropriate storage system, the requested electronically stored financial document can be reproduced, and/or distributed. *See Abstract, '447 Patent.*

34. As noted, the claims of the Asserted Patents have priority to at least April 13, 1999. At that time, the use of a common interlinked interface to provide direct access to both on-site and off-site storage databases was non-routine and unconventional. Indeed, the inability of the state of the art as of the date of invention to effectively manipulate and interface with multiple data storage systems is what lead to the conception and reduction to practice of the inventions as claimed. More specifically, in June 1998, the inventors of the Mirror Imaging Patents conceived of the claimed inventions when it became apparent that financial institutions and the leading data service provider (Dallas-based Carreker-Antinori) did not possess the software and related technologies capable of carrying out the efficient location and retrieval of financial documents from a plurality of archives. The inventive solution was, at the time, entirely unconventional, and even Carreker-Antinori deferred to the inventors of the Mirror Imaging Patents to overcome the technological problem in the industry.
35. As further evidence of the unconventionality of the claimed technological solutions, the current industry leader in the space – Viewpointe Archive Services, LLC – did not even exist until 2000, and even then was an attempt on the part of the founding institutions (which were “some of the largest institutions in financial services” at the time) to address the problem already resolved by the claims of the Asserted Patents; namely, to “solve the information management challenges of the financial industry” by creating a hosted management service. *See Viewpointe History and*

Values, at: <https://www.viewpointe.com/about-us/history-values/> (as visited March 24, 2021). Today, Viewpointe boasts that: “The Viewpointe Payment Archive is among the world’s largest storage environments, holding the majority of all payment related content in North America for the nation’s largest institutions.” See Viewpointe Payment Archive, at: <https://www.viewpointe.com/our-services/content-services/payment-archive/> (as visited March 24, 2021).

36. The claims of the Asserted Patents are not drawn to laws of nature, natural phenomena, or abstract ideas. Although the systems and methods claimed in the Asserted Patents are ubiquitous now (and, as a result, are widely infringed), the specific combinations of elements, as recited in the claims, were not conventional or routine at the time of the invention.
37. Further, the claims of the Asserted Patents contain inventive concepts which transform the underlying non-abstract aspects of the claims into patent-eligible subject matter.
38. As noted above, during prosecution of each of the Post-*Alice* Mirror Imaging Patents, the Examiners of record specifically considered whether the claims at issue were eligible under 35 USC §101 in view of the United States Supreme Court’s decision in *Alice*. In each instance, after due consideration, the Examiners found that the claims are in fact patent eligible under 35 USC §101, and allowed all claims. The Patent Examiners were, in each instance, correct; all of the claims of the Asserted Patents are patent-eligible.
39. The ’275 Patent was examined by Primary United States Patent Examiner Scott Waldron, together with Assistant Examiner Andalib Lodhi. During the examination of the ’275 Patent, the United States Patent Examiners searched for prior art in the following US Classifications: G06F 17/30442; G06F 17/30504; G06F 17/30268; G06F 17/30008; G06F 17/30011; G06F 17/30067; G06F 17/30064; and G06Q 40/00.

40. After conducting a search for prior art during the examination of the '275 Patent, the United States Patent Examiners identified and cited the following as the most relevant prior art references found during the search: (i) US 5,187,750; and (ii) US 5,870,725.

41. After giving full proper credit to the prior art and having conducted a thorough search for all relevant art and having fully considered the most relevant art known at the time, the United States Patent Examiners allowed all of the claims of the '275 Patent to issue. In so doing, it is presumed that Examiners Waldron and Lodhi used their knowledge of the art when examining the claims. *K/S Himpp v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1369 (Fed. Cir. 2014). It is further presumed that Examiners Waldron and Lodhi had experience in the field of the invention, and that the Examiners properly acted in accordance with a person of ordinary skill. *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002). In view of the foregoing, the claims of the '275 Patent are novel and non-obvious, including over all non-cited art which is merely cumulative with the referenced and cited prior art. *See* 37 C.F.R. § 1.56(b) (information is material to patentability when it is not cumulative to information already of record in the application); *see also AbbVie Deutschland GmbH v. Janssen Biotech*, 759 F.3d 1285, 1304 (Fed. Cir. 2014); *In re DBC*, 545 F.3d 1373, 1382 (Fed. Cir. 2008). Likewise, the claims of the '275 Patent are novel and non-obvious, including over all non-cited contemporaneous state of the art systems and methods, all of which would have been known to a person of ordinary skill in the art, and which were therefore presumptively also known and considered by Examiners Waldron and Lodhi. *See, e.g., St. Clair I.P. Consultants v. Canon, Inc.*, 2011 WL 66166 at *6 (Fed. Cir. 2011); *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002); *In re Koninklijke Philips Patent Litigation*, 2020 WL 7392868 at *19 (N.D. Cal. 2020); *Standard Oil v. American Cyanamid*, 774 F.2d 448, 454 (Fed. Cir. 1985) (persons of ordinary skill are presumed to be aware of all pertinent prior art).

42. The '435 Patent was examined by Primary United States Patent Examiner Scott Waldron, together with Assistant Examiner Andalib Lodhi. During the examination of the '435 Patent, the United States Patent Examiners searched for prior art in the following US Classifications: G06F 17/30247; G06F 17/30011; G06F 17/30864; G06F 17/30064; G06F 17/30067; G06F 17/30504; G06F 17/3028; and G06Q 40/02.

43. After conducting a search for prior art during the examination of the '435 Patent, the United States Patent Examiners found no references warranting rejection of any claim.

44. After giving full proper credit to the prior art and having conducted a thorough search for all relevant art and having fully considered the most relevant art known at the time, the United States Patent Examiners allowed all of the claims of the '435 Patent to issue. In so doing, it is presumed that Examiners Waldron and Lodhi used their knowledge of the art when examining the claims. *K/S Himpp v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1369 (Fed. Cir. 2014). It is further presumed that Examiners Waldron and Lodhi had experience in the field of the invention, and that the Examiners properly acted in accordance with a person of ordinary skill. *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002). In view of the foregoing, the claims of the '435 Patent are novel and non-obvious, including over all non-cited art which is merely cumulative with the referenced and cited prior art. *See* 37 C.F.R. § 1.56(b) (information is material to patentability when it is not cumulative to information already of record in the application); *see also AbbVie Deutschland GmbH v. Janssen Biotech*, 759 F.3d 1285, 1304 (Fed. Cir. 2014); *In re DBC*, 545 F.3d 1373, 1382 (Fed. Cir. 2008). Likewise, the claims of the '435 Patent are novel and non-obvious, including over all non-cited contemporaneous state of the art systems and methods, all of which would have been known to a person of ordinary skill in the art, and which were therefore presumptively also known and considered by Examiners Waldron and Lodhi. *See, e.g., St. Clair*

I.P. Consultants v. Canon, Inc., 2011 WL 66166 at *6 (Fed. Cir. 2011); *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002); *In re Koninklijke Philips Patent Litigation*, 2020 WL 7392868 at *19 (N.D. Cal. 2020); *Standard Oil v. American Cyanamid*, 774 F.2d 448, 454 (Fed. Cir. 1985) (persons of ordinary skill are presumed to be aware of all pertinent prior art).

45. The '009 Patent was examined by Primary United States Patent Examiner Pierre Vital, together with Assistant Examiner Andalib Lodhi. During the examination of the '009 Patent, the United States Patent Examiners searched for prior art in the following US Classifications: G06F 17/30247; G06F 17/30011; G06F 17/30064; G06F 17/30067; G06F 17/30268; G06F 17/30422; and G06Q 40/02.
46. After conducting a search for prior art during the examination of the '009 Patent, the United States Patent Examiners found no references warranting rejection of any claim.
47. After giving full proper credit to the prior art and having conducted a thorough search for all relevant art and having fully considered the most relevant art known at the time, the United States Patent Examiners allowed all of the claims of the '009 Patent to issue. In so doing, it is presumed that Examiners Vital and Lodhi used their knowledge of the art when examining the claims. *K/S Himpp v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1369 (Fed. Cir. 2014). It is further presumed that Examiners Vital and Lodhi had experience in the field of the invention, and that the Examiners properly acted in accordance with a person of ordinary skill. *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002). In view of the foregoing, the claims of the '009 Patent are novel and non-obvious, including over all non-cited art which is merely cumulative with the referenced and cited prior art. *See* 37 C.F.R. § 1.56(b) (information is material to patentability when it is not cumulative to information already of record in the application); *see also AbbVie Deutschland GmbH v. Janssen Biotech*, 759 F.3d 1285, 1304 (Fed. Cir. 2014); *In re DBC*, 545 F.3d 1373, 1382 (Fed. Cir. 2008).

Likewise, the claims of the '009 Patent are novel and non-obvious, including over all non-cited contemporaneous state of the art systems and methods, all of which would have been known to a person of ordinary skill in the art, and which were therefore presumptively also known and considered by Examiners Vital and Lodhi. *See, e.g., St. Clair I.P. Consultants v. Canon, Inc.*, 2011 WL 66166 at *6 (Fed. Cir. 2011); *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002); *In re Koninklijke Philips Patent Litigation*, 2020 WL 7392868 at *19 (N.D. Cal. 2020); *Standard Oil v. American Cyanamid*, 774 F.2d 448, 454 (Fed. Cir. 1985) (persons of ordinary skill are presumed to be aware of all pertinent prior art).

48. The '447 Patent was examined by Primary United States Patent Examiner Pierre Vital, together with Assistant Examiner Andalib Lodhi. During the examination of the '447 Patent, the United States Patent Examiners searched for prior art in the following US Classifications: G06F 16/583; G06F 16/24562; G06F 16/2308; G06F 16/93; G06F 16/2453; G06F 16/5866; G06F 16/10; G06F 16/447; G06Q 40/00; G06Q 40/02; and 707/769.
49. After conducting a search for prior art during the examination of the '447 Patent, the United States Patent Examiners found no references warranting rejection of any claim.
50. After giving full proper credit to the prior art and having conducted a thorough search for all relevant art and having fully considered the most relevant art known at the time, the United States Patent Examiners allowed all of the claims of the '447 Patent to issue. In so doing, it is presumed that Examiners Vital and Lodhi used their knowledge of the art when examining the claims. *K/S Himpp v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1369 (Fed. Cir. 2014). It is further presumed that Examiners Vital and Lodhi had experience in the field of the invention, and that the Examiners properly acted in accordance with a person of ordinary skill. *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002). In view of the foregoing, the claims of the '447 Patent are novel and non-

obvious, including over all non-cited art which is merely cumulative with the referenced and cited prior art. *See* 37 C.F.R. § 1.56(b) (information is material to patentability when it is not cumulative to information already of record in the application); *see also AbbVie Deutschland GmbH v. Janssen Biotech*, 759 F.3d 1285, 1304 (Fed. Cir. 2014); *In re DBC*, 545 F.3d 1373, 1382 (Fed. Cir. 2008). Likewise, the claims of the '447 Patent are novel and non-obvious, including over all non-cited contemporaneous state of the art systems and methods, all of which would have been known to a person of ordinary skill in the art, and which were therefore presumptively also known and considered by Examiners Vital and Lodhi. *See, e.g., St. Clair I.P. Consultants v. Canon, Inc.*, 2011 WL 66166 at *6 (Fed. Cir. 2011); *In re Sang Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002); *In re Koninklijke Philips Patent Litigation*, 2020 WL 7392868 at *19 (N.D. Cal. 2020); *Standard Oil v. American Cyanamid*, 774 F.2d 448, 454 (Fed. Cir. 1985) (persons of ordinary skill are presumed to be aware of all pertinent prior art).

51. The claims of the Asserted Patents were all properly issued, and are valid and enforceable for the respective terms of their statutory life through expiration, and are enforceable for purposes of seeking damages for past infringement even post-expiration. *See, e.g., Genetics Institute, LLC v. Novartis Vaccines and Diagnostics, Inc.*, 655 F.3d 1291, 1299 (Fed. Cir. 2011) (“[A]n expired patent is not viewed as having ‘never existed.’ Much to the contrary, a patent does have value beyond its expiration date. For example, an expired patent may form the basis of an action for past damages subject to the six-year limitation under 35 U.S.C. § 286”) (internal citations omitted).

THE ACCUSED INSTRUMENTALITIES

52. Upon information and belief, PNC makes, sells, advertises, offers for sale, uses, or otherwise provides a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards,

checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, periodic account statements to customers of such services. On information and belief, such periodic account statements and the data associated therewith are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such hardware and software are made, used, sold, offered for sale, and tested in the United States on the authority and under the direction or control of PNC. On information and belief, such storage systems are directly accessible to users in the United States through the Internet domains and mobile applications of PNC. On information and belief, the PNC system further comprises servers and/or computers with processors which are interlinked to the plurality of storage systems, including via: (i) the interfaces of the aforementioned Internet domains and mobile applications of PNC; and (ii) the internal (non-public) terminal interfaces within PNC and accessible to employees and agents of PNC. Collectively, the foregoing components operate as a single controlled apparatus to provide for the preparation, storage, archival, retrieval, and delivery, of periodic (e.g., monthly or annual) account statements of customers of PNC. Collectively, all of the foregoing comprises the “Accused Statement Instrumentalities.” *See* Figure Group A.

Online Statements

Get organized and save paper.^[3]



Convenience

View, save and print a PDF of your statements, without waiting for the mail.



Email Alerts^[4]

Set up alerts to receive an email when your statement is available.



Help Reduce Mail Fraud

Help reduce the possibility of mail fraud – get secure access with online banking.



Paperless^[5]

Free monthly statements online. Fees may apply for requesting paper copies.



Transaction Summaries^[6]

View your activity summary for the statement period – sortable and searchable by type, amount or check number in Online Banking.



Check Images^[7]

You can view, print or save images of your checks. Fees may apply.

See <https://www.pnc.com/en/personal-banking/banking/online-and-mobile-banking/online-banking.html>.

(-) **I need a copy of a statement, how can I get that online?**

To gain access to copies of your statements online, you must register for paperless statements for that account.

Virtual Wallet customers are automatically enrolled in online statements when enrolling in online banking.

Online Statements are available for deposit, credit card, and investment accounts.

1. Click on the Customer Service Tab in Online Banking.
2. Go to Account Services >> Activate Online Statements.
3. In the Online Statements Preferences, refer to the column "Statement Type".
4. Click "Edit" next to the appropriate account if you see it is not registered for online statements.
5. A popup will appear asking you if you wish to Activate Online Statements.
6. Click on the "Activate" Button and provide the information needed.
7. Click on Save. You will be brought back to the Online Statement Preferences Page.
8. "Online Statements Only" should now appear next to the appropriate account.

Once you have gone through the activation process, you will be able to access your statements within the My Accounts Summary Page of each account that has Online Statements activated.

See <https://www.pnc.com/en/customer-service/customer-service-frequently-asked-questions.html>.

Statements

We will mail or post ("deliver") a statement of your Account monthly. We will do this: (1) by mailing the statement, in paper form, to the last postal address which you have specified for your Account; or (2) if you have opted to receive online statements in electronic form, by posting the statement in PDF form on PNC's secure Online Banking web site. (For more information about online statements, please consult PNC's Online Banking Service Agreement.) For Savings Accounts, we will deliver this statement quarterly and for any month in which an electronic fund transfer has occurred.

See <https://www.pnc.com/content/dam/pnc-com/pdf/personal/Checking/Account%20Agreement%20for%20Personal%20Accounts.pdf>.

PNC Online Banking provides access to all your PNC accounts, including your credit card with one User ID and Password. If you have multiple banking relationships with PNC, this site will allow you to click your way through account details, pay bills, transfer funds, view rewards and perform a variety of service requests for your accounts.

- **Account Summary** - Enjoy 24/7 access to your credit card accounts, including your balance, available credit, credit limit, cash advance balance, APR, minimum payment due and previous statement information.
- **Transactions** - View up to 13 months of posted transactions, search for a specific transaction by date/description/dollar amount and export to your financial software.
- **Online Statements** - Turn off your paper statements and get access to up to 48 months of statements online. [Learn More »](#)
- **Transfer Funds** - Pay your credit card with a funds transfer from your PNC checking account. [Learn More »](#)
- **Servicing** - Request a credit limit increase, dispute a transaction or request a change of address.
- **Alerts** - Keep tabs on your card usage by receiving real-time email or text message alerts when your card is used online, internationally or for transactions greater than a specified amount. [Learn More »](#)
- **Rewards** - View your credit card reward balances and redeem online.

See <https://www.pnc.com/en/personal-banking/banking/services/manage-credit-card-online.html#:~:text=To%20obtain%20immediate%20access%20to,PIN%20and%20PNC%20account%20number.&text=Call%201%2D800%2D762%2D,sent%20to%20your%20mailing%20address.&text=You%20will%20receive%20an%20e,ready%20to%20view%20and%20download..>

PNC Online Banking is your 24/7 secure online resource for viewing important mortgage account information and accessing helpful tools to manage your loan.

Once logged into Online Banking start realizing the many benefits, including:

- Get organized and save paper with paperless [Mortgage statements](#)
- Setup account alerts to stay informed
- Schedule payments for your mortgage account
- Access mortgage documents such as your escrow statements and year-end tax statements (form 1098)[Schedule Recurring Mortgage Payments](#)

See <https://www.pnc.com/en/customer-service/mortgage-customer-service.html>.

With the PNC Mobile app, you can:



- **Manage your accounts:** Check your balance, view transactions and easily [transfer funds](#) between PNC and non-PNC accounts^[3].
- **Deposit checks on the go:** Snap a picture of your check to deposit funds and you may have an option to access your money faster, with a fee, using [PNC Express Funds](#)^[4].
- **Pay bills:** Add your bills and make one-time or recurring bill payments^[5].
- **Send money:** Use [Zelle®](#) to quickly send and receive money with people you know and trust, regardless of where they bank^[6].

See <https://www.pnc.com/en/personal-banking/banking/online-and-mobile-banking/mobile-banking.html>.

- **Important Legal Disclosures and Information**

1. Online Banking is free to customers with an eligible account; however there may be a fee for certain optional services. We reserve the right to decline or revoke access to Online Banking or any of its services. All online banking services are subject to and conditional upon adherence to the terms and conditions of the [PNC Online Banking Service Agreement](#).

2. Online bill pay is a free service within PNC Online Banking that is available for residents within the US who have a qualifying checking account. We reserve the right to decline or revoke access to this service. Payments to billers outside of the United States or its territories are prohibited through this service. Tax payments, payments to settle securities transactions, and court ordered payments may be scheduled through the Service; however, such payments are discouraged and must be scheduled at your own risk.

3. Statements may be accessed up to **7 years** on deposit accounts and up to 48 months on credit cards. Online statement history will not be available for accounts that have been closed.

See <https://www.pnc.com/en/personal-banking/banking/online-and-mobile-banking/online-banking.html>.

FIGURE GROUP A

53. Further upon information and belief, PNC makes, sells, advertises, offers for sale, uses, or otherwise provides a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services, specifically including consumer and/or business checking accounts. Pursuant to such services, PNC archives and otherwise stores

electronic copies of checks drawn on such accounts, and further delivers and/or makes available for retrieval, electronic copies of such checks. On information and belief, such copies include but are not limited to Image Replacement Documents or Substitute Checks as defined in ANSI X9.100-140-2018. On information and belief, such check images and the data associated therewith are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such hardware and software are made, used, sold, offered for sale, and tested in the United States on the authority and under the direction or control of PNC. On information and belief, such storage systems are directly accessible to users in the United States through the Internet domains and mobile applications of PNC. On information and belief, the PNC system further comprises servers and/or computers with processors which are interlinked to the plurality of storage systems, including via: (i) the interfaces of the aforementioned Internet domains and mobile applications of PNC; and (ii) the internal (non-public) terminal interfaces within PNC and accessible to employees and agents of PNC. Collectively, the foregoing components operate as a single controlled apparatus to provide for the storage, archival, delivery, and retrieval, of check images as drawn on the accounts of customers of PNC. Collectively, all of the foregoing comprises the “Accused Check Image Instrumentalities.” *See* Figure Group B.

Online Check and Deposit Images

Quick and easy access to images of checks you've written or deposited

Did you ever write a check and forget to enter it in your check register? Need a copy of a cancelled check or to confirm exactly which checks were included in a deposit you made? Sometimes, all you need is a quick look to remind you of check details you forgot to record. With online check image access through PNC Online Banking, you can click to view, print or download the information you want.^[1]

Proof of Payment or Deposit at Your Fingertips

- View, print or download images of paid checks and deposit slips even before your account statement arrives. Images of checks included as part of a deposit to your account may also be available for a fee based on your type of account.^[1]
- Images of transactions are available in PNC Online Banking in the the Account History section within one to two days of posting to your account, or in your Online Statement.^[2]
- Account transactions that can be viewed or printed will be shown as blue links. Download the images to your computer to save for future use.

Online Access

No matter how you currently receive your monthly statement - Paper Statement, Image Statements or Online Statement - images of available paid checks and deposit slips are accessible through PNC Online Banking for you to view, print or download from your current and two prior statement cycles.^[3] Images of older items are available with Online Statements.

How to get your check copies

1. Sign in to PNC Online Banking.^[3]
2. Select your account and go to "Account Activity".
3. Select the check or deposit ticket with a blue link to view, print or download the image.

If you are not a PNC Online Banking customer, [get started now!](#)

Need an actual copy or can't get your check copies online?

If you would like a copy of a check or deposit ticket mailed or faxed^[4] to you, follow the instructions with one of these options:

- After opening the image, click the "Mail or Fax" button on the image screen.
- OR, Select "Customer Service" in the top navigation, and go to "Order Check Images and Statements" under the "Account Services" section.
- OR, Call us at 1-888-PNC-Bank
M- F: 7am - 10pm ET
Sat-Sun: 8am to 5pm ET

See <https://www.pnc.com/en/personal-banking/banking/services/check-imaging.html>.

TREASURY MANAGEMENT PRODUCTS & SERVICES

IMAGE RETRIEVAL SERVICE

EXPEDITE DELIVERY OF PAID CHECK DATA AND IMAGES WITH IMAGE CD-ROM

You need an efficient, cost-effective method of managing paid check data to increase operational efficiencies, respond quickly to inquiries and reduce storage requirements.

PNC delivers

PNC's Image Retrieval Service offers an innovative way to retrieve and research paid check information. You gain quick access to high-resolution images of your checks via CD-ROM, a more efficient alternative to paper documents or microfilm. As a result, you can capture, store and research your paid check information in a more cost-effective manner.

Simplify and streamline your research activities

- Reduce storage costs and inefficiencies, since CD-ROMs take up a fraction of the space needed for physical check storage and can hold up to 20,000 check images.
- Tighten check security, since paid checks are no longer stored in-house.
- Gain almost instantaneous access to high-quality images, so you can review all of the check information more accurately.
- Sort and locate check images based on account numbers, dollar amount, check number or paid date, through an easy-to-use search utility and index.

Go paperless. Your ARP reports are included.

At PNC, we combine a wider range of financial resources with a deeper understanding of your business to help you achieve your goals. To learn more about how we can bring ideas, insight and solutions to you, please contact your Treasury Management Officer or visit pnc.com/treasury.

See https://www.pnc.com/content/dam/pnc-com/pdf/corporateandinstitutional/Treasury%20Management/010-Image%20Retrieval%20Service_4-13.pdf.

With the PNC Mobile app, you can:



- **Manage your accounts:** Check your balance, view transactions and easily [transfer funds](#) between PNC and non-PNC accounts^[3].
- **Deposit checks on the go:** Snap a picture of your check to deposit funds and you may have an option to access your money faster, with a fee, using [PNC Express Funds](#)^[4].
- **Pay bills:** Add your bills and make one-time or recurring bill payments^[5].
- **Send money:** Use [Zelle®](#) to quickly send and receive money with people you know and trust, regardless of where they bank^[6].

See <https://www.pnc.com/en/personal-banking/banking/online-and-mobile-banking/mobile-banking.html>.

⊖ **Important Legal Disclosures and Information**

1. Online Banking is free to customers with an eligible account; however there may be a fee for certain optional services. We reserve the right to decline or revoke access to Online Banking or any of its services. All online banking services are subject to and conditional upon adherence to the terms and conditions of the [PNC Online Banking Service Agreement](#).
2. Online bill pay is a free service within PNC Online Banking that is available for residents within the US who have a qualifying checking account. We reserve the right to decline or revoke access to this service. Payments to billers outside of the United States or its territories are prohibited through this service. Tax payments, payments to settle securities transactions, and court ordered payments may be scheduled through the Service; however, such payments are discouraged and must be scheduled at your own risk.
3. Statements may be accessed up to **7 years** on deposit accounts and up to 48 months on credit cards. Online statement history will not be available for accounts that have been closed.
4. PNC Alerts are free to customers. However, third party message and data rates may apply. These include fees your wireless carrier may charge you for data usage and text messaging services. Check with your wireless carrier for details regarding your specific wireless plan and any data usage or text messaging charges that may apply.

See <https://www.pnc.com/en/personal-banking/banking/online-and-mobile-banking/online-banking.html>.

FIGURE GROUP B

54. Collectively, the Accused Statement Instrumentalities and the Accused Check Image Instrumentalities comprise the “Accused PNC Instrumentalities.”
55. On information and belief, the Accused PNC Instrumentalities are compliant with the financial imaging and archival laws and regulations of the jurisdictions in which the Accused PNC Instrumentalities are available to consumers, including but not limited to the various regulations associated with the ANSI X9.100-140-2018 Standard. By way of example, and on information and belief, the Accused PNC Instrumentalities are compliant with the Technical Report prepared and published by the Accredited Standards Committee X9, dated November 13, 2016, including the capture, preservation, and use of: (i) the Cash Letter Header Record; (ii) the Bundle Header Record; (iii) the Check Detail Addendum A Record; (iv) the Check Detail Addendum C Record; (v) the Return Addendum A Record; (vi) the Return Addendum D Record; (vii) the Image View Detail Record; and (viii) the Cash Letter Control Record. *See Figure Group C.*
56. On information and belief, the Accused PNC Instrumentalities are compliant with the unique financial imaging and archival requirements established by the respective Exchange Networks with which the Accused PNC Instrumentalities inter-operate, including but not limited to the Header Record requirements of the following: Endpoint Exchange; the Federal Reserve; SVPCO, and/or Viewpointe. *See Figure Group C.*
57. On information and belief, the Accused PNC Instrumentalities are compliant with the financial imaging and archival laws and regulations of the jurisdictions in which the Accused PNC Instrumentalities are available to consumers, including but not limited to the financial records retention requirements as established in at least the following: (i) the Gramm-Leach-Bailey Act; (ii) the Fair and Accurate Credit Transaction Act; (iii) the Equal Credit Opportunity Act; (iv) the

Truth in Lending Act; (v) the Electronic Funds Transfer Act; (vi) the Bank Secrecy Act; and/or (vii) the requirements of each State or territory in the United States where the Defendant operates.

COUNT I
Infringement of U.S. Patent No. 9,928,275

58. Plaintiff incorporates the above paragraphs by reference.
59. Defendant has been on actual notice of the '275 Patent at least as early as the date it received service of the Original Complaint in this litigation.
60. Upon information and belief, Defendant owns, directs, and/or controls the operation of the Accused PNC Instrumentalities and generates substantial financial revenues and benefits therefrom.
61. Upon information and belief, Defendant has directly infringed and continues to directly infringe at least Claim 1 of the '275 Patent by making, using, importing, selling, and/or offering for sale the Accused PNC Instrumentalities. Defendant directly makes the infringing Accused PNC Instrumentalities at least because it is solely responsible for putting the infringing systems into service by directing or controlling the systems as a whole and by obtaining the benefits therefrom. More specifically, and on information and belief, with respect to the Accused PNC Instrumentalities, Defendant: (i) executed contracts with third party servicers for the provision of imaging and/or archival services and databases for financial records; (ii) developed, owns, and maintains its own digital storage archives for financial records; (iii) provides access to such imaging and archival databases via its own branded Internet domains and mobile applications using its own name and business trade dress; (iv) exercises authority over the provision of such imaging and/or archival services and databases; (v) openly advertises and promotes such imaging and/or archival services and databases bearing its name and business trade dress to customers, including by placing links for such imaging and/or archival services and databases on the

Defendant's Internet domain web pages and mobile applications, as well as by preparing and providing access to periodic branded account statements incorporating data from such databases; (vi) authored or commissioned the preparation of computer code for accessing and retrieving stored and/or archived financial records via its Internet domain web pages and mobile applications; (vii) claims ownership and control over such stored and/or archived financial records by virtue of its corporate branding and the provision of direct access; and (viii) receives monetary benefits from the provision of such financial records storage and archival services to customers. *See Figure Groups A, B, and C.*

62. Further on information and belief, Defendant directly uses the infringing Accused PNC Instrumentalities at least because it assembled the combined infringing elements and makes them collectively available in the United States, including via its Internet domain web pages and mobile applications, as well as via its internal systems and interfaces. Further, and on information and belief, Defendant has directly infringed by using the infringing Accused PNC Instrumentalities as part of its ongoing and regular testing and/or internal legal compliance activities. Such testing and legal compliance necessarily requires PNC to make and use the Accused Instrumentalities in an infringing manner. Still further, Defendant is a direct infringer by virtue of its branding and marketing activities which collectively comprise the sale and offering for sale of the infringing Accused PNC Instrumentalities. *See Figure Groups A and B.*
63. Although the preambles of the Asserted Claims are not limiting, the Accused Statement Instrumentalities comprise a system for selectively storing and retrieving electronic images of a plurality of financial documents, each electronic image being associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding financial document. More specifically, the Accused Statement Instrumentalities

comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, periodic account statements to customers of such services. On information and belief, such periodic account statements and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such periodic account statements and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such periodic account statements and the data associated therewith are maintained and indexed using, at least in part, the date associated with the corresponding statement (e.g., the date on which the corresponding statement was prepared, the date on which such corresponding statement was delivered to the customer, and/or the date or month/year of which the corresponding statement concerns). *See Figure Group A.*

64. Likewise and/or in the alternative, and although the preambles of the Asserted Claims are not limiting, the Accused Check Image Instrumentalities comprise a system for selectively storing and retrieving electronic images of a plurality of financial documents, each electronic image being associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding financial document. More specifically, the Accused Check Image Instrumentalities comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including

but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, electronic images of checks (and the data associated therewith) cleared from the corresponding accounts of customers of such services. On information and belief, such check images and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such check images and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such check images and the data associated therewith are maintained and indexed using, at least in part: (i) certain ANSI X9.100-140-2018 (“X9”) file formats and file headers which include, *inter alia*, “Date” fields and data; and/or (ii) certain numerical date signifiers, such as the date on which the corresponding check cleared or was posted. *See* Figure Groups A and C.

ASC X9 TR 47-2016																																																							
4.2 Cash Letter Header Record (Type 10)																																																							
<ul style="list-style-type: none"> • This record is Mandatory. If a corresponding Cash Letter Control Record (Type 90) is not present, the file will be rejected. • Cash letter collection types (Forward and Returns) cannot be mixed in the same file. Mixed collection types in the same file will result in a file reject. • Image Exchange files support two types of returns, both of which represent monetary value. The following defines the return types: <ul style="list-style-type: none"> ▪ Customer returns are items being returned that directly affect a customer's account. These are for typical return reasons that have been used in paper exchanges for years (i.e. NSF, Closed Account, Stop Pay, etc.) ▪ Administrative Returns are items being returned that are handled by the bank and usually do not directly affect the customer or their account. They need to be sorted from customer returns and handled separately. In many cases these are adjustments and will be handled by the adjustment area of the bank. Some of these include: poor quality image, missing image and duplicate • Fields listed with Number and Name only shall be formatted per the X9.100-187 standard 																																																							
<table border="1"> <thead> <tr> <th>Field</th><th>Field Name</th><th>Usage</th><th>Position</th><th>Type</th><th>Validation Criteria</th><th>Comments</th></tr> </thead> <tbody> <tr> <td>1</td><td>Record Type</td><td></td><td></td><td></td><td>Required</td><td></td></tr> <tr> <td>2</td><td>Collection Type Indicator</td><td>M</td><td>03 – 04</td><td>N</td><td>Required</td><td>The only valid values are: '01' and '03'</td></tr> <tr> <td>3</td><td>Destination Routing Number</td><td>M</td><td>05 – 13</td><td>N</td><td>Required</td><td></td></tr> <tr> <td>4</td><td>ECE Institution Routing Number</td><td>M</td><td>14 – 22</td><td>N</td><td>Required</td><td></td></tr> <tr> <td>5</td><td>Cash Letter Business Date</td><td>M</td><td>23 – 30</td><td>N</td><td>Required</td><td></td></tr> <tr> <td>6</td><td>Cash Letter Creation Date</td><td>M</td><td>31 – 38</td><td>N</td><td>Required</td><td></td></tr> </tbody> </table>							Field	Field Name	Usage	Position	Type	Validation Criteria	Comments	1	Record Type				Required		2	Collection Type Indicator	M	03 – 04	N	Required	The only valid values are: '01' and '03'	3	Destination Routing Number	M	05 – 13	N	Required		4	ECE Institution Routing Number	M	14 – 22	N	Required		5	Cash Letter Business Date	M	23 – 30	N	Required		6	Cash Letter Creation Date	M	31 – 38	N	Required	
Field	Field Name	Usage	Position	Type	Validation Criteria	Comments																																																	
1	Record Type				Required																																																		
2	Collection Type Indicator	M	03 – 04	N	Required	The only valid values are: '01' and '03'																																																	
3	Destination Routing Number	M	05 – 13	N	Required																																																		
4	ECE Institution Routing Number	M	14 – 22	N	Required																																																		
5	Cash Letter Business Date	M	23 – 30	N	Required																																																		
6	Cash Letter Creation Date	M	31 – 38	N	Required																																																		

See <https://x9.org/wp-content/uploads/2016/11/ASC-X9-TR-47-2016.pdf>, at 11.

ASC X9 TR 47-2016**4.3 Bundle Header Record (Type 20)**

- This record is Conditionally Required if Cash Letter Record Type Indicator (Field 8) in the Cash Letter Header Record (Type 10) is not 'N' and there are Check Detail Record(s) (Type 25) or Return Records (Type 31) in the file
- If a corresponding Bundle Control Record (Type 70) is not present, the file will be rejected
- The data in the fields are created by the ECE institution, which may or may not be the Bank of First Deposit (BOFD)
- Fields listed with Number and Name only shall be formatted per the X9.100-187 standard

Field	Field Name	Usage	Position	Type	Validation Criteria	Comments
1	Record Type				Required	
2	Collection Type Indicator	M	03 – 04	N	Required	The only valid values are: '01' and '03'
3	Destination Routing Number	M	05 – 13	N	Required	Must be the same as the Destination Routing Number (Field 3) in the Cash Letter Header Record (Type 10).
4	ECE Institution Routing Number	M	14 – 22	N	Required	Must be the same as the values in the ECE Institution Routing Number (Field 4) in the Cash Letter Header Record (Type 10).
5	Bundle Business Date	M	23 – 30	N	Required	
6	Bundle Creation Date	M	31 – 38	N	Required	

See <https://x9.org/wp-content/uploads/2016/11/ASC-X9-TR-47-2016.pdf>, at 13.

ASC X9 TR 47-2016**4.7 Check Detail Addendum C Record (Type 28)**

- This record is Conditionally Required if there is a Check Detail Record (Type 25) and no Check Detail Addendum A Record (Type 26). This record contains endorsement information that may not be present on the physical item
- **This record is required when the item is sent electronically by endorsers subsequent to the BOFD**
- There may be multiple Check Detail Addendum C Records (Type 28), as each endorsing bank creates a new record and forwards all previous records
- Data from this Check Detail Addendum C Record (Type 28) are transferred to the Return Addendum D Record (Type 35) if the item is returned
- Fields listed with Number and Name only shall be formatted per the X9.100-187 standard

Field	Field Name	Usage	Position	Type	Validation Criteria	Comments
1	Record Type				Required	
2	Check Detail Addendum C Record Number	M	03 – 04	N	Required	
3	Endorsing Bank Routing Number	M	05 – 13	N	Required	
4	BOFD / Endorsement Business Date	M	14 – 21	N	Required	Must be a valid calendar date

See <https://x9.org/wp-content/uploads/2016/11/ASC-X9-TR-47-2016.pdf>, at 20.

File Header Record (Type 01)					EEX	Fed	SVPCO	VPT	Endpoint Exchange	Federal Reserve	SVPCO	Viewpointe
Field	Field Name	Usage	Type	Validation Criteria								
1	Record Type			Required	V	V	V	V				
2	Standard Level	M	N	Required	V	V	V	V				
3	Test File Indicator			Required	V	V	V	NV				
4	Immediate Destination Routing Number	M	N	Required	V	V	V	V	The value in this field must be predefined at Endpoint Exchange.	This Routing Number must be a valid FRB RT, preferably: 061000146	The value in this field must be predefined at SVPCO	The value is not mod-checked, however, it must be predefined at Viewpointe.
5	Immediate Origin Routing Number	M	N	Required	V	V	V	V	The value in this field must be predefined at Endpoint Exchange.	This Routing Number must be predefined at Federal Reserve	The value in this field must be predefined at SVPCO	The value is not mod-checked, however, it must be predefined at Viewpointe.
6	File Creation Date	M	N	Required	V	V	V	V				The value must be in YYYYMMDD format, however it is not validated to represent a valid date.
7	File Creation Time	M	N	Required	V	V	V	V				The value must be numeric, however, it is not validated to represent a valid time.

See <https://x9.org/wp-content/uploads/2016/11/ASC-X9-TR-47-2016.pdf>, at 43.

Cash Letter Header Record (Type 10)					EEX	Fed	SVPCO	VPT	Endpoint Exchange	Federal Reserve	SVPCO	Viewpointe
Field	Field Name	Usage	Type	Validation Criteria								
1	Record Type			Required	V	V	NV	V				
2	Collection Type Indicator	M	N	Required	V	V	V	V	Valid Values: '01' for deposits '03' for returns	Valid Value for ICL deposits: '01' – Forward Collection '03' – Returns Valid Values for ICL presentations: '01' – Forward Presentment '02' – Same Day Settlement '03' – Returns	Valid Values: '01', '02', '03', and '05'	Must be: '01' or '02' for ECP or ECPI '03' for ECPR
3	Destination Routing Number	M	N	Required	V	V	V	V	The value in this field must be predefined at Endpoint Exchange.	This Routing Number must be a valid FRB RT, preferably: 061000146	Must be the same as field 4 in Record 1	The value is not mod-checked, however, it must be predefined at Viewpointe.
4	ECE Institution Routing Number	M	N	Required	V	V	V	V	The value in this field must be predefined at Endpoint Exchange.	This Routing Number must be predefined at Federal Reserve	Must be the same as field 5 in Record 1	The value is not mod-checked, however, it must be predefined at Viewpointe.
5	Cash Letter Business Date	M	N	Required	V	V	V	V	Must be within range of current system date plus 5 days or minus 21 days		Must correspond to the Super DTA current date or the Super DTA current date plus one day.	Must be a valid date within range of current system date plus 2 business days and cannot be federal reserve holiday.
6	Cash Letter Creation Date	M	N	Required	V	V	V	V				The value must be numeric, however it is not validated to represent a valid date.
7	Cash Letter Creation Time	M	N	Required	V	V	V	V				The value must be numeric, however it is not validated to represent a valid time.

See <https://x9.org/wp-content/uploads/2016/11/ASC-X9-TR-47-2016.pdf>, at 45.

Bundle Header Record (Type 20)					EEX	Fed	SVPCO	VPT	Endpoint Exchange	Federal Reserve	SVPCO	Viewpointe
Field	Field Name	Usage	Type	Validation Criteria								
1	Record Type			Required	V	V	NV	V				
2	Collection Type Indicator	M	N	Required	V	V	NV	V	Must be same as cash letter header	Must be same as cash letter header		The value must be numeric, however it is not validated.
3	Destination Routing Number	M	N	Required	V	V	NV	NV	Must be same as cash letter header			
4	ECE Institution Routing Number	M	N	Required	V	V	NV	NV	Must be same as cash letter header			
5	Bundle Business Date	M	N	Required	V	V	NV	V	Must be within range of current system date plus 5 days or minus 21 days. May be different value from Cash Letter Business Date			This value, in combination with the ECE Institution Item Sequence Number, (Type 25, Field 8) must be a unique key to the item. Must represent a valid date within range of current system data plus 120 days and minus 8 days.
6	Bundle Creation Date	M	N	Required	V	V	NV	V				The value must be numeric, however it is not validated.
7	Bundle ID			Required if Present	NV	NV	NV	NV				

See <https://x9.org/wp-content/uploads/2016/11/ASC-X9-TR-47-2016.pdf>, at 48.

At the time this standard was approved, the **X9AB Payments Subcommittee** had the following members:

Daniel Welch, Chairman
 John McCleary, Vice Chairman
 Jackie Pagán, Vice Chairman
 Alan Thiemann, Vice Chairman
 Susan Colles, Vice Chairman

Organization Represented	Representative
ACI Worldwide	Cindy Rink
ACS, Government Solutions	Pat Soltro
All My Papers	Ray Higgins
All My Papers	Larry Krummel
American Bankers Association	Tom Judd
American Bankers Association	Steve Kenneally
American Bankers Association	C. Diane Poole
American Express Company	Vicky Sammons

PNC Bank	Kevin deBrucky
PNC Bank	Lynn Nettleton

See https://webstore.ansi.org/preview-pages/ASCX9/preview_X9.100-120-2010.pdf.

Magnetic Ink Printing Specifications For CDA Check Orders		RESET	PNC BANK
*See ANSI Publication #X9.27 for Printing Specifications			
Account Name	Customer Account Number (maximum 10 digits)		
	Starting Check Number (maximum 10 digits)		
Address	Completed By		
City, State, ZIP Code			
GENERAL INFORMATION <ol style="list-style-type: none"> No printing other than magnetic encoding is to appear within the $\frac{1}{4}$-inch clear band across the bottom of the document. Debossment may not exceed .001 inch. MICR check serial number must correspond to the check number in the "body" of the check (preferably the top right hand corner). Paper weight MUST be 24lb. MICR bond. The paper quality must be such that all checks/MICR documents will successfully withstand 15 passes on PNC Bank reader/sorters. Maximum detached document size is $8\frac{1}{4}'' \times 3\frac{3}{4}''$. Minimum detached document size is $7'' \times 2\frac{1}{4}''$. 			
USE OF AUXILIARY ON-US FIELD <ol style="list-style-type: none"> CDA accounts MUST have a check (serial) number in the auxiliary ON-US field. The ON-US symbol must appear in position 45 and to the left of the last digit. The maximum number of numeric digits is 10. (Less than 10 may be used) 			
IMPORTANT Any questions regarding PNC Bank check requirements — contact the Quality Control Department, 412-762-4989.			
Upon completion of this order, send a minimum of 20 documents for MICR testing to: PNC Bank, N.A. Attn: Quality Control P7-PFSC-01-C 500 First Avenue Pittsburgh PA 15219			
ROUTING/TRANSIT FRACTION MUST APPEAR IN UPPER RIGHT CORNER OF CHECK ROUTING/TRANSIT FRACTION 56 - 389 / 412		BANK NAME AND LOCATION MUST APPEAR ON CHECK AS SHOWN BELOW PNC Bank, N.A. 070 Ashland OH	
BL - Blank Column TR - Transit No. Symbol : AM - Amount Symbol : AC - On-Us Symbol : DA - Dash Symbol : X - Consec. No. Position			
* IT IS THE PRINTER'S RESPONSIBILITY TO ADHERE TO ALL ANSI/X9 SPECIFICATIONS			

See <https://www.pnc.com/content/dam/pnc-com/pdf/corporateandinstitutional/Treasury%20Management/SpecSheets/Bank-070-CDA-Form-129338.pdf>.

FIGURE GROUP C

65. On information and belief, the aforementioned Accused Statement Instrumentalities include at least a first storage system including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Statement Instrumentalities comprise a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Statement Instrumentalities comprise a first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second storage system associated with PNC. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage system is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. *See, e.g.*, <https://www.viewpointe.com/our-services/managed-services/data-centers/>. Further on information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage system are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first storage system of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”)

is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*

66. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a first storage system including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Check Image Instrumentalities comprise a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Check Image Instrumentalities comprise a first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second storage system associated with PNC. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage system is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage system are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first storage system of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the

“predetermined parameter”) is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

67. On information and belief, the aforementioned Accused Statement Instrumentalities include at least a second storage system including a second fixed medium, wherein the second storage system is located remotely from the first storage system, the second storage system being associated with a second entity. More specifically, the Accused Statement Instrumentalities comprise a second storage system associated with PNC, and such storage system comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second storage system associated with PNC is located remotely from the first storage system associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second storage system associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images configured to be stored in the second storage system are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second storage system of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*
68. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a second storage system including a second fixed medium, wherein the second storage system is located remotely from the first storage system, the second storage system being associated with a second entity. More specifically, the Accused

Check Image Instrumentalities comprise a second storage system associated with PNC, and such storage system comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second storage system associated with PNC is located remotely from the first storage system associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second storage system associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images configured to be stored in the second storage system are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second storage system of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

69. In addition, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least an electronic processor which has electronic access to the first and second storage systems and is also interlinked to the first storage system and the second storage system, wherein the electronic processor is interlinked to the first storage system and the second storage system through an interlinked interface. More specifically, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces

within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second storage systems via an interlinked interface, and which are collectively configured to: (i) receive requests for one of the stored electronic images of the plurality of financial documents; (ii) compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage system or the second storage system once the first storage system or the second storage system has been accessed.

70. More specifically, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. *See Figure Group A.* Upon receiving a request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as,

for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

71. In addition, and/or in the alternative, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. Upon receiving a request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
72. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least an electronic processor which has electronic access to the first and second storage systems and is also interlinked to the first storage system and the second storage system, wherein the electronic processor is interlinked to the first storage system and the second storage system through an interlinked interface. More specifically, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal

interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second storage systems via an interlinked interface, and which are collectively configured to: (i) receive requests for one of the stored electronic images of the plurality of financial documents; (ii) compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage system or the second storage system once the first storage system or the second storage system has been accessed.

73. More specifically, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. *See Figure Group B.* Upon receiving a request for a given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as,

for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

74. In addition, and/or in the alternative, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. Upon receiving a request for a given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
75. The foregoing infringement on the part of PNC has caused past and ongoing injury to Plaintiff. The specific dollar amount of damages adequate to compensate for the infringement shall be determined at trial but is in no event less than a reasonable royalty from the date of first infringement to the expiration of the '275 Patent.
76. Defendant has been on actual or constructive notice of the Asserted Patents since at least as early as March 27, 2018 (the issue date of the '275 Patent) by virtue of one or more of the following: (i) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2008; (ii) written notice delivered to Defendant from IP Navigation Group in 2012; (iii) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2017; and/or (iv) written notice delivered to

Defendant from Mirror Imaging in March 2018 or December 2019 or March 2020. In addition, and/or in the alternative, on information and belief, and in view of the clear infringement by the Accused Instrumentalities, Defendant has a policy or practice of not reviewing the patents of others. Further on information and belief, and in view of the clear infringement by the Accused Instrumentalities and the notoriety of the Mirror Imaging litigations, Defendant instructs its employees to not review the patents of others for clearance or to assess infringement thereof. As such, Defendant has been willfully blind to the patent rights of Plaintiff.

77. Each of Defendant's aforesaid activities have been without authority and/or license from Plaintiff.

COUNT II
Infringement of U.S. Patent No. 10,013,435

78. Plaintiff incorporates the above paragraphs by reference.

79. Defendant has been on actual notice of the '435 Patent at least as early as the date it received service of the Original Complaint in this litigation.

80. Upon information and belief, Defendant owns, directs, and/or controls the operation of the Accused PNC Instrumentalities and generates substantial financial revenues and benefits therefrom.

81. Upon information and belief, Defendant has directly infringed and continues to directly infringe at least Claim 12 of the '435 Patent by making, using, importing, selling, and/or offering for sale the Accused PNC Instrumentalities. Defendant directly makes the infringing Accused PNC Instrumentalities at least because it is solely responsible for putting the infringing systems into service by directing or controlling the systems as a whole and by obtaining the benefits therefrom. More specifically, and on information and belief, with respect to the Accused PNC Instrumentalities, Defendant: (i) executed contracts with third party servicers for the provision of imaging and/or archival services and databases for financial records; (ii) developed, owns, and

maintains its own digital storage archives for financial records; (iii) provides access to such imaging and archival databases via its own branded Internet domains and mobile applications using its own name and business trade dress; (iv) exercises authority over the provision of such imaging and/or archival services and databases; (v) openly advertises and promotes such imaging and/or archival services and databases bearing its name and business trade dress to customers, including by placing links for such imaging and/or archival services and databases on the Defendant's Internet domain web pages and mobile applications, as well as by preparing and providing access to periodic branded account statements incorporating data from such databases; (vi) authored or commissioned the preparation of computer code for accessing and retrieving stored and/or archived financial records via its Internet domain web pages and mobile applications; (vii) claims ownership and control over such stored and/or archived financial records by virtue of its corporate branding and the provision of direct access; and (viii) receives monetary benefits from the provision of such financial records storage and archival services to customers. *See Figure Groups A, B, and C.*

82. Further on information and belief, Defendant directly uses the infringing Accused PNC Instrumentalities at least because it assembled the combined infringing elements and makes them collectively available in the United States, including via its Internet domain web pages and mobile applications, as well as via its internal systems and interfaces. Further, and on information and belief, Defendant has directly infringed by using the infringing Accused PNC Instrumentalities as part of its ongoing and regular testing and/or internal legal compliance activities. Such testing and legal compliance necessarily requires PNC to make and use the Accused Instrumentalities in an infringing manner. Still further, Defendant is a direct infringer by virtue of its branding and

marketing activities which collectively comprise the sale and offering for sale of the infringing Accused PNC Instrumentalities. *See Figure Groups A and B.*

83. Although the preambles of the Asserted Claims are not limiting, the Accused Statement Instrumentalities comprise a system for selectively storing and retrieving electronic images of a plurality of financial documents, each electronic image being associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding financial document. More specifically, the Accused Statement Instrumentalities comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, periodic account statements to customers of such services. On information and belief, such periodic account statements and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of specially configured electronic storage means, which are comprised of hardware (including servers) and software (including source code). On information and belief, such periodic account statements and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such periodic account statements and the data associated therewith are maintained and indexed using, at least in part, the date associated with the corresponding statement (e.g., the date on which the corresponding statement was prepared, the date on which such corresponding statement was delivered to the customer, and/or the date or month/year of which the corresponding statement concerns). *See Figure Group A.*

84. Likewise and/or in the alternative, and although the preambles of the Asserted Claims are not limiting, the Accused Check Image Instrumentalities comprise a system for selectively storing and retrieving electronic images of a plurality of financial documents, each electronic image being associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding financial document. More specifically, the Accused Check Image Instrumentalities comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, electronic images of checks (and the data associated therewith) cleared from the corresponding accounts of customers of such services. On information and belief, such check images and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of specially configured electronic storage means, which are comprised of hardware (including servers) and software (including source code). On information and belief, such check images and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such check images and the data associated therewith are maintained and indexed using, at least in part: (i) certain ANSI X9.100-140-2018 (“X9”) file formats and file headers which include, *inter alia*, “Date” fields and data; and/or (ii) certain numerical date signifiers, such as the date on which the corresponding check cleared or was posted. *See* Figure Groups A and C.

85. Further, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least a first specially configured electronic storage means including a first fixed medium,

the first storage means being associated with a first entity. More specifically, the Accused Statement Instrumentalities comprise a plurality of specially configured storage means, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Statement Instrumentalities comprise a first specially configured storage means associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second specially configured storage means associated with PNC. On information and belief, the first storage means associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage means is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. *See, e.g., <https://www.viewpointe.com/our-services/managed-services/data-centers/>.* Further on information and belief, the first storage means associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage means are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first specially configured storage means of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”) is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*

86. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a first specially configured storage means including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Check Image Instrumentalities comprise a plurality of specially configured storage means, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Check Image Instrumentalities comprise a first storage means associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second storage means associated with PNC. On information and belief, the first storage means associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage means is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. On information and belief, the first specially configured storage means associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage means are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first specially configured storage means of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the “predetermined parameter”) is greater than a given age or time

period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

87. Further, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least a second specially configured storage means including a second fixed medium, wherein the second specially configured storage means is located remotely from the first specially configured storage means, the second storage means being associated with a second entity. More specifically, the Accused Statement Instrumentalities comprise a second specially configured storage means associated with PNC, and such storage means comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second specially configured storage means associated with PNC is located remotely from the first storage means associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second specially configured storage means associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images configured to be stored in the second storage means are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second specially configured storage means of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*
88. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a second specially configured storage means

including a second fixed medium, wherein the second specially configured storage means is located remotely from the first specially configured storage means, the second storage means being associated with a second entity. More specifically, the Accused Check Image Instrumentalities comprise a second specially configured storage means associated with PNC, and such storage means comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second specially configured storage means associated with PNC is located remotely from the first storage means associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second specially configured storage means associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images configured to be stored in the second storage means are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second specially configured storage means of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See* Figure Groups B and C.

89. In addition, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least a retrieving means comprised of an electronic processor which has electronic access to the first and second specially configured storage means and is also interlinked to the first storage means and the second storage means, wherein the electronic processor is interlinked to the first storage means and the second storage means through an

interlinked interface. More specifically, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second specially configured storage means via an interlinked interface, and which are collectively configured to: (i) receive requests for one of the stored electronic images of the plurality of financial documents; (ii) automatically compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage means when the numerical sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage means when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage means or the second storage means once the first storage means or the second storage means has been accessed.

90. More specifically, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second specially configured storage means. *See Figure Group A.* Upon receiving a request for a given statement image, the processors of the Accused Statement Instrumentalities are configured

such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate specially configured storage means (*i.e.*, the first storage means with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage means associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

91. In addition, and/or in the alternative, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second specially configured storage means. Upon receiving a request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate specially configured storage means (*i.e.*, the first storage means with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage means associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
92. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a retrieving means comprised of an electronic processor which has electronic access to the first and second specially configured storage means and is also interlinked to the first storage means and the second storage means, wherein the electronic processor is interlinked to the first storage means and the second storage means through

an interlinked interface. More specifically, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second specially configured storage means via an interlinked interface, and which are collectively configured to: (i) receive requests for one of the stored electronic images of the plurality of financial documents; (ii) automatically compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter after the request is received; (iii) automatically access the first specially configured storage means when the numerical sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second specially configured storage means when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage means or the second storage means once the first storage means or the second storage means has been accessed.

93. More specifically, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second specially configured storage means. *See* Figure Group B. Upon receiving a request for a

given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage means (*i.e.*, the first storage means with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage means associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

94. In addition, and/or in the alternative, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second specially configured storage means. Upon receiving a request for a given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage means (*i.e.*, the first storage means with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage means associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
95. The foregoing infringement on the part of PNC has caused past and ongoing injury to Plaintiff. The specific dollar amount of damages adequate to compensate for the infringement shall be determined at trial but is in no event less than a reasonable royalty from the date of first infringement to the expiration of the '435 Patent.

96. Defendant has been on actual or constructive notice of the Asserted Patents since at least as early as July 3, 2018 (the issue date of the '435 Patent) by virtue of one or more of the following: (i) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2008; (ii) written notice delivered to Defendant from IP Navigation Group in 2012; (iii) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2017; and/or (iv) written notice delivered to Defendant from Mirror Imaging in March 2018 or December 2019 or March 2020. In addition, and/or in the alternative, on information and belief, and in view of the clear infringement by the Accused Instrumentalities, Defendant has a policy or practice of not reviewing the patents of others. Further on information and belief, and in view of the clear infringement by the Accused Instrumentalities and the notoriety of the Mirror Imaging litigations, Defendant instructs its employees to not review the patents of others for clearance or to assess infringement thereof. As such, Defendant has been willfully blind to the patent rights of Plaintiff.

97. Each of Defendant's aforesaid activities have been without authority and/or license from Plaintiff.

COUNT III
Infringement of U.S. Patent No. 10,262,009

98. Plaintiff incorporates the above paragraphs by reference.

99. Defendant has been on actual notice of the '009 Patent at least as early as the date it received service of the Original Complaint in this litigation.

100. Upon information and belief, Defendant owns, directs, and/or controls the operation of the Accused PNC Instrumentalities and generates substantial financial revenues and benefits therefrom.

101. Upon information and belief, Defendant has directly infringed and continues to directly infringe at least Claim 21 of the '009 Patent by making, using, importing, selling, and/or offering for sale the Accused PNC Instrumentalities. Defendant directly makes the infringing Accused PNC

Instrumentalities at least because it is solely responsible for putting the infringing systems into service by directing or controlling the systems as a whole and by obtaining the benefits therefrom. More specifically, and on information and belief, with respect to the Accused PNC Instrumentalities, Defendant: (i) executed contracts with third party servicers for the provision of imaging and/or archival services and databases for financial records; (ii) developed, owns, and maintains its own digital storage archives for financial records; (iii) provides access to such imaging and archival databases via its own branded Internet domains and mobile applications using its own name and business trade dress; (iv) exercises authority over the provision of such imaging and/or archival services and databases; (v) openly advertises and promotes such imaging and/or archival services and databases bearing its name and business trade dress to customers, including by placing links for such imaging and/or archival services and databases on the Defendant's Internet domain web pages and mobile applications, as well as by preparing and providing access to periodic branded account statements incorporating data from such databases; (vi) authored or commissioned the preparation of computer code for accessing and retrieving stored and/or archived financial records via its Internet domain web pages and mobile applications; (vii) claims ownership and control over such stored and/or archived financial records by virtue of its corporate branding and the provision of direct access; and (viii) receives monetary benefits from the provision of such financial records storage and archival services to customers. *See Figure Groups A, B, and C.*

102. Further on information and belief, Defendant directly uses the infringing Accused PNC Instrumentalities at least because it assembled the combined infringing elements and makes them collectively available in the United States, including via its Internet domain web pages and mobile applications, as well as via its internal systems and interfaces. Further, and on information and

belief, Defendant has directly infringed by using the infringing Accused PNC Instrumentalities as part of its ongoing and regular testing and/or internal legal compliance activities. Such testing and legal compliance necessarily requires PNC to make and use the Accused Instrumentalities in an infringing manner. Still further, Defendant is a direct infringer by virtue of its branding and marketing activities which collectively comprise the sale and offering for sale of the infringing Accused PNC Instrumentalities. *See Figure Groups A and B.*

103. Although the preambles of the Asserted Claims are not limiting, the Accused Statement Instrumentalities comprise a specially programmed system for performing a method of accessing an electronically-stored financial document from one of a first storage system associated with a first entity or a second storage system associated with a second entity, wherein the second storage system is located remotely from the first storage system, wherein the first and second storage systems each include a plurality of electronic images stored therein, each of the plurality of electronic images corresponding to a plurality of financial documents, and wherein each electronic image is associated with at least one specific document parameter, wherein the specific document parameter includes a numerical sequence that contains information relating to a record date of the corresponding financial document, wherein the first storage system is associated with a primary interface and the second storage system is associated with a secondary interface. More specifically, the Accused Statement Instrumentalities comprise specially programmed systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, periodic account statements to customers of such services. On information and belief, such periodic account statements and

the data associated therewith (the “plurality of electronic images of financial documents”) are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such periodic account statements and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such periodic account statements and the data associated therewith are maintained and indexed using, at least in part, the date associated with the corresponding statement (*e.g.*, the date on which the corresponding statement was prepared, the date on which such corresponding statement was delivered to the customer, and/or the date or month/year of which the corresponding statement concerns). *See* Figure Group A.

104. Likewise and/or in the alternative, and although the preambles of the Asserted Claims are not limiting, the Accused Check Image Instrumentalities comprise a specially programmed system for performing a method of accessing an electronically-stored financial document from one of a first storage system associated with a first entity or a second storage system associated with a second entity, wherein the second storage system is located remotely from the first storage system, wherein the first and second storage systems each include a plurality of electronic images stored therein, each of the plurality of electronic images corresponding to a plurality of financial documents, and wherein each electronic image is associated with at least one specific document parameter, wherein the specific document parameter includes a numerical sequence that contains information relating to a record date of the corresponding financial document, wherein the first storage system is associated with a primary interface and the second storage system is associated with a secondary interface. More specifically, the Accused Check Image Instrumentalities

comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, electronic images of checks (and the data associated therewith) cleared from the corresponding accounts of customers of such services. On information and belief, such check images and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such check images and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such check images and the data associated therewith are maintained and indexed using, at least in part: (i) certain ANSI X9.100-140-2018 (“X9”) file formats and file headers which include, *inter alia*, “Date” fields and data; and/or (ii) certain numerical date signifiers, such as the date on which the corresponding check cleared or was posted.

See Figure Groups A and C.

105. On information and belief, the aforementioned Accused Statement Instrumentalities include at least a first storage system including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Statement Instrumentalities comprise a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Statement Instrumentalities comprise a first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second storage system associated with PNC. On

information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage system is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. *See, e.g.*, <https://www.viewpointe.com/our-services/managed-services/data-centers/>. Further on information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage system are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first storage system of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”) is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*

106. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a first storage system including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Check Image Instrumentalities comprise a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Check Image Instrumentalities comprise a first storage system associated with one or more third party imaging and/or archival service providers (such as, for example,

Viewpointe), as well as a second storage system associated with PNC. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage system is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage system are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first storage system of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the “predetermined parameter”) is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

107. In addition, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least a second storage system including a second fixed medium, wherein the second storage system is located remotely from the first storage system, the second storage system being associated with a second entity. More specifically, the Accused Statement Instrumentalities comprise a second storage system associated with PNC, and such storage system comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second storage system associated with PNC is

located remotely from the first storage system associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second storage system associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images configured to be stored in the second storage system are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second storage system of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*

108. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a second storage system including a second fixed medium, wherein the second storage system is located remotely from the first storage system, the second storage system being associated with a second entity. More specifically, the Accused Check Image Instrumentalities comprise a second storage system associated with PNC, and such storage system comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second storage system associated with PNC is located remotely from the first storage system associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second storage system associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images

configured to be stored in the second storage system are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second storage system of the Accused Check Image Instrumentalities is configured such that it stores electronic images of images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

109. In addition, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least an electronic processor which has electronic access to the first and second storage systems and is also interlinked to the first storage system and the second storage system, wherein the electronic processor is electronically interlinked to the first storage system and the second storage system through an interlinked interface. More specifically, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second storage systems via an interlinked interface, and which are collectively configured to: (i) electronically receive requests for one of the stored electronic images of the plurality of financial documents; (ii) automatically compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage system when the numerical sequence of the document

parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage system or the second storage system once the first storage system or the second storage system has been accessed.

110. More specifically, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is electronically interlinked (via, for example, the Internet) to the first and second storage systems. *See* Figure Group A. Upon receiving an electronic request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
111. In addition, and/or in the alternative, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is electronically interlinked (via, for example, the Internet) to the first and second storage

systems. Upon receiving an electronic request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

112. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least one electronic processor which has electronic access to the first and second storage systems and is also interlinked to the first storage system and the second storage system, wherein the electronic processor is interlinked to the first storage system and the second storage system through an electronically interlinked interface. More specifically, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second storage systems via an interlinked interface, and which are collectively configured to: (i) electronically receive requests for one of the stored electronic images of the plurality of financial documents; (ii) automatically compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage system when the numerical

sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage system or the second storage system once the first storage system or the second storage system has been accessed.

113. More specifically, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. *See Figure Group B.* Upon receiving a request for a given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
114. In addition, and/or in the alternative, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is electronically interlinked (via, for example, the Internet) to the first and second storage systems. Upon receiving an electronic request for a given check image, the processors of the

Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) automatically compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

115. The foregoing infringement on the part of PNC has caused past and ongoing injury to Plaintiff. The specific dollar amount of damages adequate to compensate for the infringement shall be determined at trial but is in no event less than a reasonable royalty from the date of first infringement to the expiration of the '009 Patent.
116. Defendant has been on actual or constructive notice of the Asserted Patents since at least as early as April 16, 2019 (the issue date of the '009 Patent) by virtue of one or more of the following: (i) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2008; (ii) written notice delivered to Defendant from IP Navigation Group in 2012; (iii) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2017; and/or (iv) written notice delivered to Defendant from Mirror Imaging in March 2018 or December 2019 or March 2020. In addition, and/or in the alternative, on information and belief, and in view of the clear infringement by the Accused Instrumentalities, Defendant has a policy or practice of not reviewing the patents of others. Further on information and belief, and in view of the clear infringement by the Accused Instrumentalities and the notoriety of the Mirror Imaging litigations, Defendant instructs its employees to not review the patents of others for clearance or to assess infringement thereof. As such, Defendant has been willfully blind to the patent rights of Plaintiff.
117. Each of Defendant's aforesaid activities have been without authority and/or license from Plaintiff.

COUNT IV
Infringement of U.S. Patent No. 10,402,447

118. Plaintiff incorporates the above paragraphs by reference.
119. Defendant has been on actual notice of the '447 Patent at least as early as the date it received service of the Original Complaint in this litigation.
120. Upon information and belief, Defendant owns, directs, and/or controls the operation of the Accused PNC Instrumentalities and generates substantial financial revenues and benefits therefrom.
121. Upon information and belief, Defendant has directly infringed and continues to directly infringe at least Claim 11 of the '447 Patent by making, using, importing, selling, and/or offering for sale the Accused PNC Instrumentalities. Defendant directly makes the infringing Accused PNC Instrumentalities at least because it is solely responsible for putting the infringing systems into service by directing or controlling the systems as a whole and by obtaining the benefits therefrom. More specifically, and on information and belief, with respect to the Accused PNC Instrumentalities, Defendant: (i) executed contracts with third party servicers for the provision of imaging and/or archival services and databases for financial records; (ii) developed, owns, and maintains its own digital storage archives for financial records; (iii) provides access to such imaging and archival databases via its own branded Internet domains and mobile applications using its own name and business trade dress; (iv) exercises authority over the provision of such imaging and/or archival services and databases; (v) openly advertises and promotes such imaging and/or archival services and databases bearing its name and business trade dress to customers, including by placing links for such imaging and/or archival services and databases on the Defendant's Internet domain web pages and mobile applications, as well as by preparing and providing access to periodic branded account statements incorporating data from such databases;

(vi) authored or commissioned the preparation of computer code for accessing and retrieving stored and/or archived financial records via its Internet domain web pages and mobile applications;

(vii) claims ownership and control over such stored and/or archived financial records by virtue of its corporate branding and the provision of direct access; and (viii) receives monetary benefits from the provision of such financial records storage and archival services to customers. *See Figure Groups A, B, and C.*

122. Further on information and belief, Defendant directly uses the infringing Accused PNC Instrumentalities at least because it assembled the combined infringing elements and makes them collectively available in the United States, including via its Internet domain web pages and mobile applications, as well as via its internal systems and interfaces. Further, and on information and belief, Defendant has directly infringed by using the infringing Accused PNC Instrumentalities as part of its ongoing and regular testing and/or internal legal compliance activities. Such testing and legal compliance necessarily requires PNC to make and use the Accused Instrumentalities in an infringing manner. Still further, Defendant is a direct infringer by virtue of its branding and marketing activities which collectively comprise the sale and offering for sale of the infringing Accused PNC Instrumentalities. *See Figure Groups A and B.*

123. Although the preambles of the Asserted Claims are not limiting, the Accused Statement Instrumentalities comprise a system for selectively storing and retrieving electronic images of a plurality of financial documents, each electronic image being associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding financial document. More specifically, the Accused Statement Instrumentalities comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited

to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and makes available for retrieval, periodic account statements to customers of such services. On information and belief, such periodic account statements and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such periodic account statements and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such periodic account statements and the data associated therewith are maintained and indexed using, at least in part, the date associated with the corresponding statement (*e.g.*, the date on which the corresponding statement was prepared, the date on which such corresponding statement was delivered to the customer, and/or the date or month/year of which the corresponding statement concerns). *See Figure Group A.*

124. Likewise and/or in the alternative, and although the preambles of the Asserted Claims are not limiting, the Accused Check Image Instrumentalities comprise a system for selectively storing and retrieving electronic images of a plurality of financial documents, each electronic image being associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding financial document. More specifically, the Accused Check Image Instrumentalities comprise systems for providing a plurality of financial services, including but not limited to providing and supporting financial account and/or depository services (including but not limited to credit cards, debit cards, checking and/or savings accounts, and secured/unsecured loans). Pursuant to such services, PNC prepares, stores, archives, delivers, and

makes available for retrieval, electronic images of checks (and the data associated therewith) cleared from the corresponding accounts of customers of such services. On information and belief, such check images and the data associated therewith (the “plurality of financial documents”) are maintained in a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, such check images and the data associated therewith comprise electronic images associated with a document parameter that includes a numerical sequence that is representative of a record date of the corresponding statement. More specifically, and on information and belief, such check images and the data associated therewith are maintained and indexed using, at least in part: (i) certain ANSI X9.100-140-2018 (“X9”) file formats and file headers which include, *inter alia*, “Date” fields and data; and/or (ii) certain numerical date signifiers, such as the date on which the corresponding check cleared or was posted. *See* Figure Groups A and C.

125. Further, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least a first storage system including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Statement Instrumentalities comprise a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Statement Instrumentalities comprise a first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second storage system associated with PNC. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first storage system is comprised of the “geographically dispersed Tier

3+ IBM data centers" of Viewpointe, or a functionally equivalent third party data storage system. *See, e.g.,* <https://www.viewpointe.com/our-services/managed-services/data-centers/>. Further on information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage system are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first storage system of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the "predetermined parameter") is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*

126. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a first storage system including a first fixed medium, the first storage system being associated with a first entity. More specifically, the Accused Check Image Instrumentalities comprise a plurality of storage systems, which are comprised of hardware (including servers) and software (including source code). On information and belief, the Accused Check Image Instrumentalities comprise a first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), as well as a second storage system associated with PNC. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. By way of example, such first

storage system is comprised of the “geographically dispersed Tier 3+ IBM data centers” of Viewpointe, or a functionally equivalent third party data storage system. On information and belief, the first storage system associated with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe) stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images that are configured to be stored in the first storage system are greater than a predetermined parameter, wherein the predetermined parameter is a date or time period. More specifically, and on information and belief, the first storage system of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with the check (the “predetermined parameter”) is greater than a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

127. In addition, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least a second storage system including a second fixed medium, wherein the second storage system is located remotely from the first storage system, the second storage system being associated with a second entity. More specifically, the Accused Statement Instrumentalities comprise a second storage system associated with PNC, and such storage system comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second storage system associated with PNC is located remotely from the first storage system associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second storage system associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document

parameter for each of the at least some of the electronic images configured to be stored in the second storage system are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second storage system of the Accused Statement Instrumentalities is configured such that it stores electronic images of periodic account statements wherein the date associated with the statement (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Group A.*

128. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least a second storage system including a second fixed medium, wherein the second storage system is located remotely from the first storage system, the second storage system being associated with a second entity. More specifically, the Accused Check Image Instrumentalities comprise a second storage system associated with PNC, and such storage system comprises one or more servers with hard disc data storage or functionally equivalent fixed data storage mediums. On information and belief, such second storage system associated with PNC is located remotely from the first storage system associated with the one or more third party imaging and/or archival service providers (such as, for example, Viewpointe). Further, and on information and belief, the second storage system associated with PNC is configured such that it stores at least some of the electronic images for the plurality of financial documents wherein the document parameter for each of the at least some of the electronic images configured to be stored in the second storage system are less than or equal to the predetermined parameter. More specifically, and on information and belief, the second storage system of the Accused Check Image Instrumentalities is configured such that it stores electronic images of checks cleared from the corresponding accounts of customers, wherein the date associated with

the check (the “predetermined parameter”) is less than or equal to a given age or time period (such as, for example, 12 or 18 or 24 months prior to the current date). *See Figure Groups B and C.*

129. Further, and on information and belief, the aforementioned Accused Statement Instrumentalities include at least an electronic processor which has electronic access to the first and second storage systems and is also interlinked to the first storage system and the second storage system, wherein the electronic processor is interlinked to the first storage system and the second storage system through an interlinked interface. On information and belief, such interlinked interface is configured such that it at least partially links the respective separate interfaces of the first and second storage systems. More specifically, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second storage systems via an interlinked interface, and which are collectively configured to: (i) electronically receive requests for one of the stored electronic images of the plurality of financial documents; (ii) automatically, without human intervention, compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the

predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage system or the second storage system once the first storage system or the second storage system has been accessed.

130. More specifically, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. *See Figure Group A.* On information and belief, such interlinked interface is configured such that it at least partially links the respective separate interfaces of the first and second storage systems. Upon receiving an electronic request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) automatically, without human intervention, compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
131. In addition, and/or in the alternative, and on information and belief, the Accused Statement Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. On information and belief, such interlinked interface is configured such that it at least partially links

the respective separate interfaces of the first and second storage systems. Upon receiving an electronic request for a given statement image, the processors of the Accused Statement Instrumentalities are configured such that they individually and/or collectively: (i) automatically, without human intervention, compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

132. Likewise and/or in the alternative, and on information and belief, the aforementioned Accused Check Image Instrumentalities include at least one electronic processor which has electronic access to the first and second storage systems and is also interlinked to the first storage system and the second storage system, wherein the electronic processor is interlinked to the first storage system and the second storage system through at least one interlinked interface. On information and belief, such interlinked interface is configured such that it at least partially links the respective separate interfaces of the first and second storage systems. More specifically, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. In addition, and/or in the alternative, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, such plurality of Internet servers comprise a plurality of processors which are collectively interlinked to, and have electronic access to, the first and second storage systems via an interlinked interface, and which are collectively configured to: (i) electronically receive requests for one of the stored electronic images of the plurality of financial

documents; (ii) automatically, without human intervention, compare the numerical sequence of the document parameter associated with the requested stored electronic image to the predetermined parameter; (iii) automatically access the first storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is greater than the predetermined parameter; (iv) automatically access the second storage system when the numerical sequence of the document parameter associated with the requested stored electronic image is less than or equal to the predetermined parameter; and (v) automatically retrieve the requested stored electronic image from the first storage system or the second storage system once the first storage system or the second storage system has been accessed.

133. More specifically, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to users in the United States via the Internet domains and mobile applications of PNC. Each such domain and/or application comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. *See Figure Group B.* Upon receiving an electronic request for a given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) automatically, without human intervention, compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.
134. In addition, and/or in the alternative, and on information and belief, the Accused Check Image Instrumentalities comprise a plurality of Internet servers directly accessible to employees and/or

agents of PNC via internal (non-public) terminal interfaces within PNC. On information and belief, each such terminal accesses an application which comprises and renders a user interface which is interlinked (via, for example, the Internet) to the first and second storage systems. On information and belief, such interlinked interface is configured such that it at least partially links the respective separate interfaces of the first and second storage systems. Upon receiving a request for a given check image, the processors of the Accused Check Image Instrumentalities are configured such that they individually and/or collectively: (i) automatically, without human intervention, compare the numerical sequence (*e.g.*, the date) associated with the requested image; (ii) automatically access the appropriate storage system (*i.e.*, the first storage system with one or more third party imaging and/or archival service providers (such as, for example, Viewpointe), or the second storage system associated with PNC) based on the comparison of the numerical sequence; and (iii) automatically retrieve the selected image.

135. The foregoing infringement on the part of PNC has caused past and ongoing injury to Plaintiff. The specific dollar amount of damages adequate to compensate for the infringement shall be determined at trial but is in no event less than a reasonable royalty from the date of first infringement to the expiration of the '447 Patent.
136. Defendant has been on actual or constructive notice of the Asserted Patents since at least as early as September 3, 2019 (the issue date of the '447 Patent) by virtue of one or more of the following: (i) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2008; (ii) written notice delivered to Defendant from IP Navigation Group in 2012; (iii) the notoriety of the Mirror Imaging litigations in the Eastern District of Texas in 2017; and/or (iv) written notice delivered to Defendant from Mirror Imaging in March 2018 or December 2019 or March 2020. In addition, and/or in the alternative, on information and belief, and in view of the clear infringement

by the Accused Instrumentalities, Defendant has a policy or practice of not reviewing the patents of others. Further on information and belief, and in view of the clear infringement by the Accused Instrumentalities and the notoriety of the Mirror Imaging litigations, Defendant instructs its employees to not review the patents of others for clearance or to assess infringement thereof. As such, Defendant has been willfully blind to the patent rights of Plaintiff.

137. Each of Defendant's aforesaid activities have been without authority and/or license from Plaintiff.

PRAYER FOR RELIEF

WHEREFORE, Mirror Imaging, LLC respectfully requests the Court enter judgment against Defendant as follows:

1. Declaring that Defendant has infringed each of the Asserted Patents;
2. Awarding Mirror Imaging, LLC its damages suffered because of Defendant's infringement of the Asserted Patents;
3. Awarding Mirror Imaging, LLC its costs, reasonable attorneys' fees, expenses, and interest; and
4. Granting Mirror Imaging, LLC such further relief as the Court finds appropriate.

JURY DEMAND

Mirror Imaging, LLC demands trial by jury, under Fed. R. Civ. P. 38.

Dated: May 21, 2021

Respectfully Submitted

/s/ M. Scott Fuller

M. Scott Fuller

Texas Bar No. 24036607

sfuller@ghiplaw.com

Randall Garteiser

Texas Bar No. 24038912

California Bar No. 239829

rgarteiser@ghiplaw.com

Christopher A. Honea

Texas Bar No. 24059967

California Bar No. 232473

chonea@ghiplaw.com

René Vazquez

Virginia Bar No. 41988

rvazquez@ghiplaw.com

GARTEISER HONEA, PLLC

119 W. Ferguson Street

Tyler, Texas 75702

Telephone: (903) 705-7420

Facsimile: (888) 908-4400

**ATTORNEYS FOR PLAINTIFF
MIRROR IMAGING, LLC**